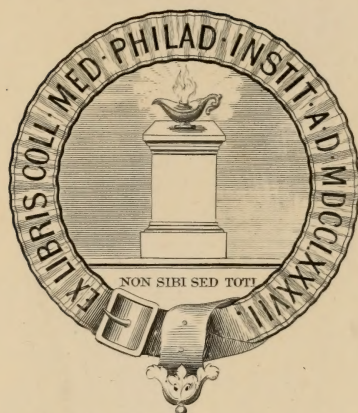
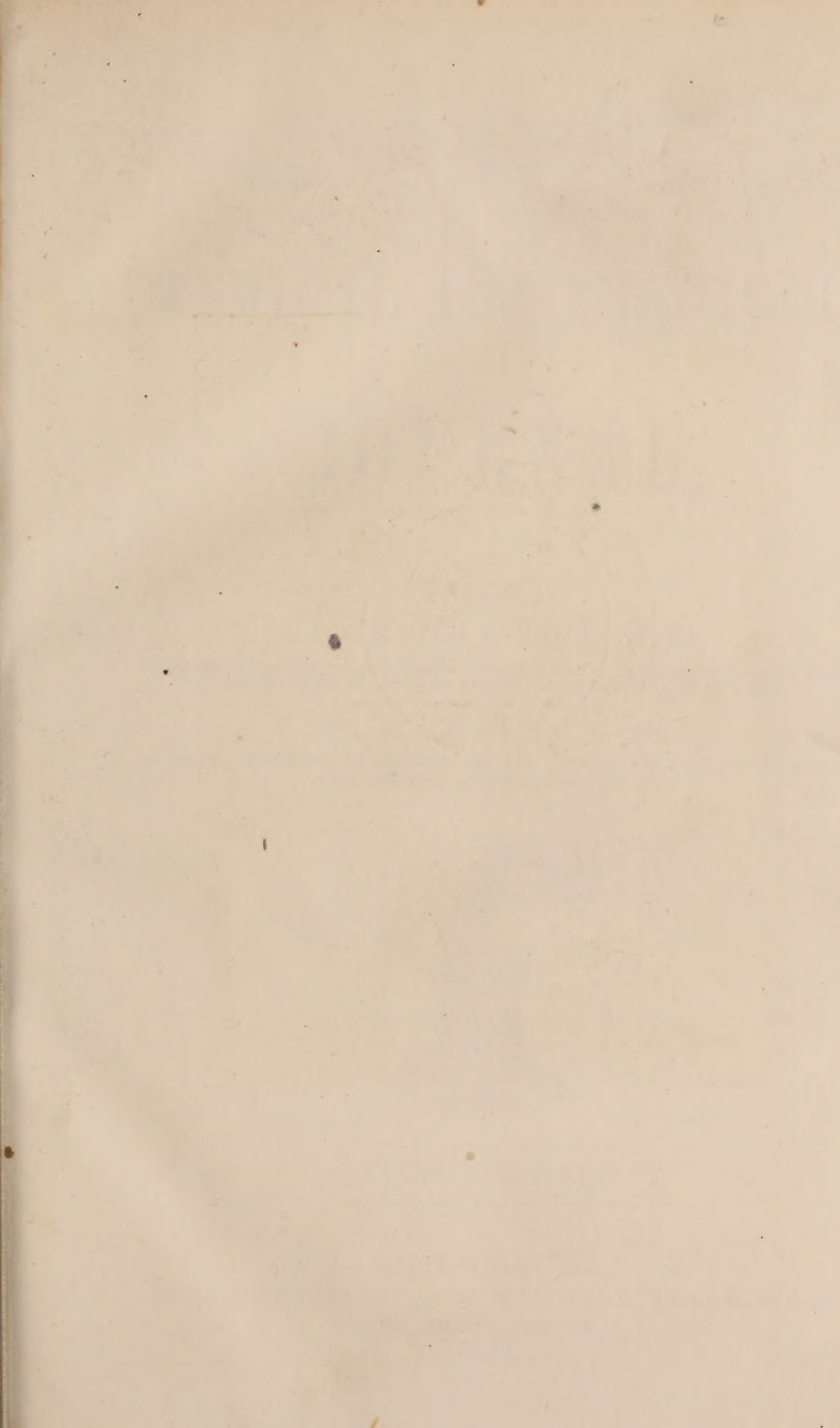


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EDITORS:

JOHN DAWSON, M.D.,

Professor of Anatomy and Physiology in Starling Medical College, and formerly Physician and Oculist to the State Asylum for the Education of the Blind.

J. W. HAMILTON, M.D.,

PROFESSOR OF SURGERY IN STARLING MEDICAL COLLEGE, AND LECTURER ON AURAL AND OPHTHALMIC MEDICINE AND SURGERY.



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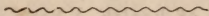
# OHIO MEDICAL AND SURGICAL JOURNAL.

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## Original Communications.



*Address of O. Wendell Holmes, M.D., before the Massachusetts Medical Society.* Remarks on by Senior Editor.

Under ordinary circumstances, a production of the kind before us receives but a passing notice. This, however, is from a Representative man of the fraternity of Reformers in this country, and as a consequence is entitled to a somewhat formal consideration.

The address, from what we see in our exchanges and in secular journals, has been somewhat extensively read—more read, we suppose, than understood; for we were surprised to see extracts from it, derogatory to the integrity of medical men, published in several medical periodicals.

No one has failed to observe that some mighty investments, of late, have been made both in this country and Europe, in favor of reforms in Medicine. In order to make room for new systems, principles, axioms, and doctrines that had obtained for ages have been attacked, and an almost universal skepticism has been engendered in the public mind against the plainest truths of science.

In order that the reader may comprehend something of the origin and progress of the doctrines which this poet of Massachusetts has lately been engaged in ventilating for the edification of the medical profession in the old Bay State, we will refer a little to history. It will be seen that the "Address before the Massachusetts Medical Society" is simply a rehash of old talk—simply the prose of a

philosopher of the early part of the eighteenth century turned into Boston poetry.

To Sir John Forbes, M.D., Fellow of the Royal College of Physicians, London, belongs the credit or discredit (just as the reader chooses) of having called public attention to a consideration of "*Nature and Art in the Cure of Disease.*" This he did in a work of some two hundred and fifty pages, issued from the London press in 1857, and from the press of this country the succeeding year. In the Introduction to this work Dr. Forbes remarks:

"Having been now actively engaged in the practice of medicine for the long period of fifty years, and having derived therefrom much of the prosperity and happiness that have been my fortunate lot in life, I feel that my profession has claims on me for much more than I have been able to give it, and as, at my time of life and in my present state of health, I have no right to look forward to the acquisition of further knowledge in the same field, it is incumbent on me to communicate now any information I may possess, if I am to communicate it at all. \* \* \* And in this mood I would fain regard the present book in the light of *A Legacy to my Younger Brethren*, which, slight as it is, may not be found altogether unworthy of their acceptance."

This Legacy offered by Dr. Forbes to his younger brethren, as the result of fifty years' experience in the practice of medicine, amounts to this: *a book of two hundred and fifty pages, devoted to an attempt to revive the fanciful system of George Ernest Stahl, Professor of the Practice of Medicine in the University of Halle, in Germany, during the early part of the eighteenth century.*

Lest the reader should suppose that we have made a draw on his credulity, we will extract from Dr. Forbes' work:

"It will be seen that the system of treatment which I here advocate, more especially in acute diseases, and which my own observation and experience have led me to prefer, *is exactly* that followed and recommended by the *celebrated Stahl* a century and a half ago, in his admirable work entitled '*Ars sanandi cum Expectatione opposita Arti curandi nûda Expectatione.*'"

We will look now a little into this celebrated German's notions:

*Of Stahl's Physiology.*—"The motions and functions of the human body are governed entirely by the '*Rational Soul*,' to many of the motions of which it is not conscious. The *Soul* being extended through the medium of the nerves to all parts of the body,



perceives every noxious impression or disorder that occurs in the system, and like a faithful guardian calls such powers of the system into action as are qualified to remove or obviate the noxious impressions, and to preserve its salutary operations."

Again: "The act by means of which life is sustained, and the soul fulfills its functions, is absolutely repugnant to matter, and agrees well with the nature of the mind. That act, as observation shows, is motion; by it the mixture of the humors is preserved in integrity. The soul acts on the body and in the body; compares reasons, and moves from one object to another; in a word, it is '*perpetual motion*.' Now all motion is an immaterial act, which can only have for a principle an immaterial substance itself."

*Stahl's Therapeutics*.—"True *medical* or artistic expectation is that which, while carefully observing the salutary operations of Nature, is content to do so without offering assistance where not needed, or limiting this assistance to the giving of prudent counsel, such as recommending to the sick temperance and patience, yet in the proper place recognizing, not merely the necessity, but the propriety of artificial interference, and yielding it accordingly; still, however, in every case having due regard to the proceedings and coöperations of Nature, according to reason and approved experience."

Again: "As to the *methodus medendi*, or indication of treatment to be followed, it is clear that it must have reference to the disease itself, and not to drugs or other remedies. The first consideration is: is it necessary to prescribe a remedy at all? If so, we have then to consider, not so much what remedy is best, as what effect is desired; and this is to be sought for not on pharmaceutical but on pathological ground. We are to judge according to the peculiar character of the disease, when and in what order the operation indicated is to be instituted; and then and not till then is it time to look about for the instrument with which we are to work."

The following remarks by Gideon Harvey, a cotemporary of Stahl, are accepted as truthfully setting forth the "*Expectation*" system of practice:

"Expectation is the applying of remedies that do little hurt and less good, from which the patient day by day frustraneously expecting relief and benefit, is at last deferred so long that *nature* and *time* have partially or entirely cured the disease.

"The real remedies of the Expectant physician are confident and

bold assertions that the patient shall be cured; though his scrowles or recipes can conduce no more to the recovery of health than a Laplander's charm to procure a fair wind."

In regard to what we have quoted of the doctrines of Stahl, the author of "Nature and Art in the cure of Disease" remarks:

"I cannot here avoid expressing my admiration of many of the numerous productions of Ernest Stahl, and particularly of the treatise on Expectation. Stahl's works contain more of original truth in regard to the nature and treatment of diseases, and in regard to the proper method of studying them, than any other writings of his time."

Here, then, we have the origin of the nonsense which Sir John Forbes has revived in England, and which has been re-echoed by Drs. Jacob Bigelow and O. Wendell Holmes of this country.

*Who supports these doctrines at the present day?*

We have no disposition to detract improperly from the reputation of any one, much less from a fellow-laborer in medical science. But when men set themselves up as the oracles of a learned profession—a profession the members of which have contributed more than half of what is to-day known of *science*, we have a right to look a little into their claims to confidence—into their pretensions to be "Teachers in Israel."

Dr. Forbes is an English physician; was editor for some time of the "*British and Foreign Medico-Chirurgical Review*." In this work he wrote some articles that were looked upon at the time as heterodox. They were on *Homœopathy*, *Allopathy*, and *Young Physic*. These articles were regarded at the time of their appearance as also foreshadowing the introduction of a new system by their author. The reader of them could plainly discern a restive spirit, and strong desire for things strange and novel. Taken altogether, they impugned regular scientific medicine, *by the usual fallacies*, but proposed nothing in its place. The substitute, however, as we have seen, in time comes. The crudities of Stahl are paraded before us as a substitute for scientific medicine, by Dr. Forbes, as though they were really so many axioms, so many truths indorsed by the most rigid experiments, and tested by the most unequivocal results of actual practice. We are not told that Stahlism had its day, and that it was found wanting; that when put into practice, the results were those of a mere *negation* of medicaments; that it was condemned as worthless by the physicians of the time, and that finally Gideon Harvey, on even theoretical



grounds, refuted it, and so completely, that it is now only known in connection with medical fallacies. If Dr. Forbes imagines that his fifty years' experience in the use of drugs, and the high position he attained in the profession, is prestige sufficient to give currency to doctrines that converts the vocation of the physician into that of a mere *meditation on death*, he is mistaken. From what evidence there is before us, we conclude that Dr. F., with all his experience, was an inexperienced practitioner, fond of generalities and short cuts; that he overlooked the real nature of disease and the curative powers of drugs; and in our humble opinion was a routine practitioner who got tired of ploddings, and impatient at the slow accretions around the nuclei of medical science.

Those who have advocated the theories of Dr. Forbes in this country and who are now proclaiming them through the press, have not yet worked their way, in any department of science, to a respectable position. They are mostly flippant talkers, or ready writers, without much sense as to the course of studies necessary to form just views of medicine; and frequently they are without any clinical experience at all. O. W. Holmes is a teacher of Anatomy in a medical school, practices as we understand but little, if any; and has quite a reputation as a poet in his neighborhood. His principal occupation is that of a "*sensation* Essayist." Of the tendency of the people of his region to speculation and skepticism, he has availed himself freely. He figures in the "*Autocrat*" on a great variety of subjects, and scarcely ever quits a moral subject without leaving it worse than he found it. He injects, indeed, his nonsensical infidelity into his readers with great facility—and mistakes in every thing he writes the mission of the mere empty-headed objector, for that of the philosopher. What neophyte in medicine should be governed by the opinions of such a writer? Until he comes forward giving evidence of capacity to judge of medical truth, and is able to show some respectable service in conflict with disease at the bedside, we beg leave to be excused from attaching any great importance to his notions. Forbes, Hanneman, and Bigelow, a trio of theorists, have waked the Boston bard from his slumbers, and the right-minded physicians of New England will now have a trouble to get rid of his noise and scandal. Of course they feel very much complimented with the *inference* deducible from his "*Address before the Massachusetts Medical Society*"—viz: that physicians are all "knaves or fools"!!

## WHAT IS THE CHARACTER OF THE EVIDENCE IN SUPPORT OF THESE DOCTRINES?

If *Stahl* could have established his assertions by the force of the lowest grade of evidence, they would not have been so soon abandoned. He predicated them all upon the basis of ethereal speculation, without having paid any attention to the truth of premises. The same is true of the efforts of Dr. Forbes. He tells us that he has had fifty years' experience in the practice of medicine; but what is experience without capacity to judge of results? Who can estimate any thing accurately in regard to the power of drugs, if he has concluded beforehand that they have no power?

We will look for a moment into the truth of the hypotheses proposed by Dr. Forbes as the basis of "a rational treatment of disease."

In the first place we are treated in his work to a disquisition on the old, thread-bare subject *Life*; *second*, to an attempt to explain the *essence of Disease*.

Upon neither of these questions do we notice any thing from the pen of Dr. F. that produces much illumination. Indeed, in his attempt to define Life he ignores entirely what is said by our exact Chemico-Vital friends of the present day who claim some attention for their views, and goes back at once to the German philosophers. In a previous quotation we have seen what Stahl taught on this subject. In a few words he taught the identity of *Life*, *Mind* and *Motion*, and that the movements of the organism under the influence of Life is a fine example of "*Perpetual Motion*." We fail to see that such notions are any better than those of Hippocrates, who taught two thousand years ago—"The human body has no determined commencement. Each of its integral parts may be regarded equally as the first or last, for in a described circle, it is impossible to find either beginning or end;" or than those of the Iatro-Chemists, who present Life and *fermentation* as being identical; or than those of Iatro-Mechanics, who regard Life as consisting in *Muscular contraction*.

We might here present a great array of opinions on this subject from physicians, physicists, and philosophers, any of which would be just as plausible as those of Stahl and Forbes; but it is unnecessary; for the reason, that our information does not extend to immaterial things. We might reason forever upon such, and



the effort would amount to nothing, *pro* or *con*. But is it not a little surprising that a philosopher, who has had the rays of science beaming upon him for half a century, and who has given evidence of being something of a Journalist, should have proposed any of this ethereal nonsense concerning the essence of life as the foundation of an attempt to create a new era in Medicine. We had supposed our cup, of the merely fanciful, full; and that all the efforts would now be confined to things substantial, practical. We were little, really, prepared for an avalanche of old, exploded dogmas; but the wonder after all, is their recent source.

The *pathology* which Dr. Forbes adopts, or rather, his *definition of disease*, like what he has said on Life, differs in no respect from what we have had offered for the consideration of the profession by a variety of authors of different degrees of capacity. Here it is: "When the structure or function deviates from the normal type, the individual is in a *state of disease*." Now, nobody denies this, for it is a kind of an axiom that a Fejee Islander would consent to with great cordiality. But the inference drawn from it, that disease is not an *entity*, is not quite so obvious. What is added to our knowledge by such an assertion? The sickness of an individual is a reality, if not an "entity;" and whether this proceeds, as the Good Book suggests, from one, or from "Seven Devils" rollicking without halts on through the organism cutting up Jack generally; or from rents, cracks, or loosened screws incident to the play of organs Dr. F. knows not; and yet perhaps he knows just as much of such things as any one else.

The Historian and Symptomologist will tell us that certain phenomena indicate the presence of disease; the Morbid Anatomist, that disease consists in changes of structure; the Chemist, that it is connected with variations in the quantity and quality of molecules, and that he once in a while poisons it; and the Therapeutist, that it is an entity, an evil genius, an unfriendly visitor, that he sometimes seizes upon, "binds hand and foot," emasculates, and pitches out of the organism. Any one of these explanations, as far as we can see, is just as near the truth, as that of Dr. F. Each one of them has been turned over from generation to generation by those who have taken a fancy to such subtleties, but thus far, they have only served the purpose of the "*Tub* for the Whale."

As a consequence of Dr. Forbe's notions of Life, Disease, etc., he proposes a radical change in the treatment of disease. He con-

demns in very coarse and positive terms the use of all drugs that tend to limit or *cut short* the disease. "Our estimate," he remarks, "of the *Extinguishing* treatment as a guide in practice, or even of a modification of it, is of a damnatory character, whether the application be made to acute or chronic cases—the slight amount of good ever derived from it being counterbalanced by a huge sum of evil." To take the place of all such interference, which he regards as *perturbative* and *exhaustive*, he proposes what he is pleased to call the "*Auxillary or Mild Treatment*," which denies the efficacy of drugs, and directs that "no attempt by any vigorous measures to alter the course of the morbid processes, so long as they keep within the limit of safety, and when they transgress or threaten this limit, only then to endeavor to modify them by such mild measures as if *they fail in doing no good* will do no harm."

Here, we have in a few words, the old "*vis medicatrix naturæ*" exhumed and brought up again, as being fully competent to every emergency, acute or chronic, ephemeral or long continued—Nature is the Autocrat to do every thing; Art nothing. The vocation of the physician is to stand by, watch, meditate upon the ravages going on, but interpose no obstacles, for the fear, that by so doing, he may do harm.

How near do such speculations agree with what is known of the treatment of disease, and with what will stand the test of time? Since the discovery of Peruvian bark, we have what may be called an "Extinguishing" drug for intermittent and several forms of remittent fever—a drug, too, that never disappoints expectation. It matters nothing as to what you regard as being the essence of the disease, the effects of the drug are uniform and *curative*. Arsenic, with about the same certainty, will also cure ague. Chlorotic anemia is curable by iron, Bronchocele by iodine, Syphilis by mercury, Tertiary Syphilis by the iodide of potassium, Gout by colchicum, and Scorbutis by fresh lemon juice.

Here we have a starting point in regard to the powers of drugs; and who can set limits to it? If we have, for all the diseases of the malarial regions of the world, discovered a remedy—if we have, for one of the most loathsome diseases of a corrupt crowded population, and for such formidable maladies as anemia and bronchocele already found medicaments, who can doubt our ultimate triumph, if we are faithful, over all the principal ills that afflict humanity? Is not such a desideratum simply reduced to the matters of Patience, Industry and Time?

We are told that the Extinguishing system, or the Heroic system, is *perturbative* and *exhaustive*, and that as much evil as good, in the end, results from it.

#### HEROIC PLAN OF TREATMENT.

Some very strange notions have obtained with reference to the *Heroic* plan of treatment. Amateur physicians and uninformed theorists associate "heroic" practice with the idea of immense doses of calomel, indiscriminate or copious blood-letting, emetics and purgatives without regard to circumstances. To those who are desirous of the truth, it is only necessary to state, that abuse here has been confounded with use. The same disease, from a great variety of circumstances, varies in the amount or quantity of of medicine requisite to its cure. In one case three grains of sulph. quinia will cure ague; in another, it will require six grains; in another, twelve; in another, twenty-four; and in another, perhaps, fifty. Now what more is there of heroism in the administration of fifty than there is of three grains? A certain quantity of the drug is required in order to accomplish the cure, and hence such a system of practice is most properly denominated the *Curative, Scientific, or Sensible*. What is true of quinia in intermittent fever, as regards quantity, is true of all other specifics, of pseudo-specifics, and of all modifying agents. The dose must rise or fall with the emergency; the quantity must be varied to suit the circumstances. If we have a congestive intermittent, in an adult of vigorous constitution, the paroxysms of which anticipate each other, is there a sensible man living who would rely on half-grain doses of Peruvian bark administered two or three times a day? And why not? Because in his own hands, and in the hands of all, most competent as practitioners, such practice has proved itself inert and useless. Opium, Iron, Chloroform, Digitalis, Veratrum, Emetics, Cathartics, Diuretics, Diaphoretics, are not exceptions to what we have said of quinia. After all of the circumstances of a case are duly estimated, the *quantity* of medicine is positive. If a poisonous dose of arsenic cannot be rendered harmless in the stomach by one-fourth grain doses of the Hydrated Peroxide of Iron; if half an ounce of Nitrate of Silver cannot be rendered harmless with ten grains of common salt; if an ounce of Oxalic Acid cannot be neutralized by a grain of Carbonate of Magnesia, why should we conclude that drugs, whether operating on the



*Extinguishing, Alterative, or Antidotal* principle, can accomplish results irrespective of *quantity*? Nor should the large doses of the peroxide of iron, given in cases of poisoning by arsenic, or the large doses of common salt, given in poisoning by nitrate of silver be regarded as “heroic.” They are simply the scientific quantity required.

We say, then, that we are tired of the senseless clamor about “heroic doses.” It has simply served the purposes of the timid, the inexperienced, the uninformed. The subject of doses has been before the profession since any thing has been known of the power of drugs; and we have in our books a digest of it that annually undergoes revision by learned men, who meet especially for that purpose, and whose opinions are entitled to consideration.

#### THE MILD PLAN OF TREATMENT.

This, as Dr. Forbes tells us, is about synonymous with Homœopathy, or the do-nothing plan. It is founded, as we have seen, on the autocracy of Nature, on the competency of nature to cure all diseases to which “flesh is heir.” It disposes at one fell swoop with the vocation of the physician, degrading him at once to the level of a mere nurse. He is to interpose no obstacles to the course of disease, especially acute disease, for fear of imaginary perturbation and exhaustion. All specifics are to be laid on the shelf; *antidotal* remedies neglected as being of doubtful efficacy; and the more potent of *modifying* agents, as cold water, the extraction of blood local or general, veratrum, digitalis, opium, cathartics and emetics, are to be dispensed with as being not only useless but injurious. Drugs may be administered, but only in such quantities that they will not disturb the course of the disease; measures may be resorted to, but only to divert the attention of the patient. Such is the *Mild* plan of treatment proposed by Dr. Forbes as “*A Legacy*” to the young men of the profession, and advocated by O. Wendell Holmes and Jacob Bigelow, of Massachusetts. It is unnecessary to say anything further of these doctrines than that—

1. They are opposed to the experience of the profession—have been repeatedly acted on and as often abandoned as useless.

2. They are unphilosophical in theory, discarding the most important facts known to the profession, and rendering the basis of Medicine—the *Natural Sciences*—useless as a study.

3. They ignore the instinct of an individual when sick, for medicine, *for relief*; and attempt to appease his desires with deception.

4. They ignore the plainest axiom, the medical property of drugs; and in so doing render useless the provision that the Creator has made for the cure and relief of human suffering.

5. There is just as much sense in talking about "*mild*" truth, "*mild*" figures, "*mild*" virtue, as there is talking of "*mild*" remedies. A remedy is a remedy because of its quantity, quality, properties, &c., and has nothing to do with either "*mildness*" or "*heroism*."

#### POLYPHARMACIA (*Much Medicine*).

This term, which properly means "*much*" medicine, is also used to signify a prescription consisting of a great number of medicines. Those whose ambition it appears to be to find fault with what, to say the least of it, they know but little about, dwell with great emphasis upon the too frequent exhibition of drugs, and upon the excessive quantity used.

"There is no offense," says O. Wendell Holmes, "then, in expressing the opinion that after all which has been said, *the community is still over-dosed*. The best proof of it is that no families take so little medicine as those of doctors, except those of apothecaries, and that old practitioners are more sparing of active medicines than younger ones."

The above is a coarse random fling at the integrity of medical men. It would hardly be just not to concede to physicians, and especially old ones, more care in the prevention of disease, both as respects themselves and families, than could be expected to be exercised by laymen, or even young inexperienced practitioners. And as for physicians taking but little medicine themselves, the statement is gratuitous. They may not yield to the extraneous pressure often present for too much officiousness and variety, and this would be to their credit; but they take what science suggests, and are often impatient with hesitation and delay. We say here what we know to be true, having had some experience in medicating medical men and in being medicated by them. Indeed, it is fresh in the memory of many that a very distinguished foreigner, who had written learnedly on the inutility of blood-letting in any case, and especially in visceral inflammations, became himself, when afflicted with *pneumonia*, very desirous to part with a portion of the vital current. And who forgets the case of the celebrated Rush, who would have bled himself to death when laboring under continued fever, had not his medical advisers interposed?

If it were not egotism we would relate our own experience. In the only case of inflammatory disease from which we ever suffered (pneumonia), we ordered the physician, the moment that we were satisfied of the advent of the disease, to take blood from the arm until syncope was induced, which he did. We then, at our own suggestion, went under the influence of nauseating doses of tartar emetic, which was kept up for five or six days in succession. Local blood-letting and blisters were resorted to at the proper period; and finally, on the morning of the thirteenth day of the disease, after having taken the previous night some five or six doses of calomel and ipecacuanha combined, we felt the evidences of decided convalescence; it was rapid, and so complete that we lost no portion of the lung, nor have we ever had any evidence of the slightest adhesion.

Another phase of this subject is, that we have "*too many*" medicines. This is simply an argument against the resources of the profession. The more the better, the greater the variety to choose from. Nor is it an offset to say that old physicians use very few remedies; for seeing the indications to be met, they lay their hands at once upon the article to do it. It is not with Experience like with the neophytes, "try this, and try that," until something is found to answer the purpose. The nail is likely to be hit upon the head at once. Hippocrates, who founded scientific medicine, employed diet, baths, exercise, blood-letting (venesection, cupping, and scarification), the actual cautery, the knife, and a series of medicines of which thirty-six were mineral substances, one hundred and fifty animal, and three hundred vegetable. Since the time of this Father, 360 B. C., our instruments for combat with disease have been very much multiplied; and who now looks upon the volumes necessary to their description with anything but feelings of pride? Who, indeed, can have any other sensation when contemplating the humanity and industry that has worked out for suffering mortals such an amount of resource?

Connected with the subject before, there is a matter that needs reform. We allude to *loading prescriptions with a great number of ingredients*. For some time the clear-headed, careful practitioner has been engaged in abridging his prescriptions, and making them as simple as possible. "One thing at a time" is an adage very profitable to the therapist in controlling a case of disease



There are always a few leading indications that if properly attended to will give a favorable impulse to the case; besides, such practice leads to a better estimate of the character of remedies.

#### ABUSES OF MEDICINES.

If all of the criticisms and flings with which scientific medicine has of late been beset, had been confined to the above head, the results would have been much better for both the profession and the people. A profession that embraces as much of difficulty and of complexity, with reference to principles and ratiocination, as ours does, could not be expected to be inseparable from the grossest *abuse*. Abuses always as a consequence have existed, and they now exist. The former frequency of ptyalism, the indiscriminate use of the lancet, the exhibition unnecessarily of depressing wasting medicaments, or the polypharmacy of prescriptions, so much harped upon by the uninformed and thoughtless, are however not evidence against *proper use*, any more than the taking of too much bread into the stomach is evidence against the use of bread. This is the sophism that Dr. Forbes and his followers have perpetrated upon themselves and upon the people. They have confounded *use* and *abuse*; and as far as their influence has been felt, it has made a very unfavorable and unjust impression; and in all probability may be the means of more unnecessary suffering and mortality than the perturbative and exhaustive drugs that they have thought proper to caution the community against. While, therefore, every one, not demented, will use all of the means, and in quantities that will be most likely to accomplish results, there is no one but what will regard exposure of abuses of medicines as valuable contributions to the cause of rational medicine.

We have occasionally been astonished with medical men who chime in with this noisy meddlesome skepticism of the thoughtless. "The people have been drugged to death," "the community has been over-dosed," are the common expressions of the windy, while the more reserved say, "Well, there is no doubt but what we have given too much medicine." "Nature is entitled to more credit than we have generally given her." "Oh! what destruction and deformity we have occasioned with calomel!" "Dear mercy, just look at the method formerly of using drastic cathartics." "Well, well, well," says the old Æsculapian, of goose-quill notoriety, drawing up his legs and leaning back in his arm-chair, "I think,

to say the least of it, we had better all take in our horns a little." Such expressions, although perhaps not always so intended by those who indulge in them, are used as arguments against *all* medicines—against artificial interference of all kinds. When will those who wish to ventilate their opinions, and really have the welfare of the profession at heart, learn the import of the *ignorantia elenchi*?

#### MEDICAL EVIDENCE.

Self-delusion is no uncommon thing as every one would say who looks through the history of his race—the efforts of man to comprehend himself and the things with which he is surrounded. Each profession, in its turn, has been twitted with its "uncertainties" and laughed at because of its inefficiency. To the superficial there is no starting point, no *primum mobile*, and no kind of evidence but what is fallacious.

It is scarcely necessary to enter formally into an elaboration of this subject. We may state, however, for the benefit of the "younger brethren," that there are two species of *certainly* recognized—Metaphysical and Empyrical, or Experimental. The first admits of no exceptions, and has no degrees, as "*the whole of any thing is greater than a part*;" "*a straight line is the shortest distance between two points*;" "*every effect must have a cause*." Such are positive. The second—Empyrical certainty—is synonymous with *Probability*, and admits of degrees. The most that we can say when a matter rests on it is, "*there is no known exception*." The truths of Astronomy, and Natural science of all kinds, rest on this species of evidence. So also do those of Medicine. The facts, indeed, connected with the most exact and severe experiments of chemistry rise no higher in the scale of certainty than probability. The movements of the sun and the "atomic theory" are forcible examples of admitted truths resting on mere probabilities. Why then should the Medical profession be arraigned for want of positive certainty? Why should physicians, even those who rise intellectually entirely above the ordinary bother of complex details, be expected to foretell all about the action of medicines, and the result of cases? That they should make blunders daily is no ground for wonder—the wonder really is that they don't make more.

We are told by *O. Wendell Holmes* of the mistakes made by medical men in reasoning on the effects of their prescriptions and one, especially, is posted up for public inspection. The "*post hoc*

*ergo propter hoc error*—he got well after taking my medicine, therefore in consequence of taking it.”

That medical men, or men engaged in any of the pursuits of life are unable to boast of exemption from such a bewitching fallacy, one so easily committed, is not at all strange. But it is a little remarkable that O. Wendell Holmes, himself, in reading to the medical profession of Massachusetts a homily on reasoning, should have committed a similar sin before leaving the Temple. He remarks :

“One practical hint may not be out of place here. It seems to be sometimes forgotten, by those who must know the fact, that the *tongue* is very different anatomically and physiologically from the stomach. Its condition does not in the least imply that of the stomach which is a very different structure, covered with a different kind of epithelium, and furnished with entirely different secretions. A silversmith will, for a dollar, make a *small hoe* of solid silver, which will last for centuries and will give a patient more comfort used for the removal of the accumulated epithelium and fungous growths which constitute the fur, than many a prescription with a split-footed R before it addressed to the parts out of reach.  
\* \* \* I think more of this little implement because I consider that the *use* of it, or something like it, saved the colony at Plymouth in the year 1623.”

That the reader may understand this historic allusion, we will state that in 1623, at Plymouth, Massassoit was taken sick ; prostration, stupor, epistaxis, and frightful sordes were present. Edward Winslow went to see the patient and gave him some conserve, washed his mouth, and *scraped his tongue*, and he recovered, and saved, it is said, the infant colony.

Saying nothing about the ignoring of the tongue as an element of diagnosis, and the coarse, uncandid allusion to the prescriptions of the physician which the above extract contains, we come at once to the “*silver hoe*.” This was used to scrape the tongue with in a case, that Dr. Holmes regarded as *Typhoid fever*. The patient recovered, and Dr. Holmes thinks the recovery due to the silver hoe, “that only costs a dollar, and will last for centuries.” The hoe was used, the patient recovered. Is this, or is it not, the *post hoc ergo propter hoc* argument? The patient got well after his tongue was scraped ; therefore in consequence, Dr. Holmes thinks, of scraping it.



Besides now the commission of the "*post hoc ergo propter hoc*" error by the Poet, we find something more here:

1. A new remedy introduced for typhoid fever, "*the silver hoe*" remedy.

2. And this too, from its alleged efficacy in a single case—not a case either that the Poet himself witnessed and watched throughout its entire course, but one that he heard of, as having occurred more than 200 years ago under the observation alone of laymen. Formerly some 10,000 or 12,000 successful trials of a medicine were necessary, before conceding to it curative properties!

3. The remedy don't cost much, "only a dollar."

4. "It will last for centuries."

5. "Any silver-smith can make it."

6. Its prestige is fine. "It saved the infant Colony at Plymouth from a mortal disease"—a very valuable feat truly, if we take into consideration all of the consequences of not being saved.

For the benefit now of all such innovators and self-conceited reformers as O. Wendell Holmes, Jacob Bigelow, Sir John Forbes, *et id omne genus*, men whose influence, because of position in the regular profession, has been more injuriously felt than otherwise would have been, we subjoin the following resumé of philosophical *Theories* which we have prepared with some labor. These theories begin with Thales, the Father of Greek Speculation, who lived B. C., 636, and extend to Aristotle, the Father of Natural Science, who lived B. C., 384, and embrace a period of less than 300 years. The discussions relate especially, it will be observed, to the generalities—Heat, Motion, Life, Death, the Universe and Disease, and, as a consequence, embrace, among other things, many, if not every single one of the dogmatisms which have served as the foundation of the pleas for radical reform in medicine.

We ask, then, the above named gentlemen to take a look into these theories, and then to buy a looking-glass and look at themselves.

### *Doctrines of Ancient Philosophers.*

#### THALES (B. C., 636)

inquired into the constitution of the Universe—taught that the principle of all things is Water.

#### ANAXIMENOS

taught Air as the beginning and principle of all things.

## DIOGENES

called the Air a Soul, and then regarded it as the principle of all things.

## PYTHAGORAS,

can't tell when born—one of the founders of Mathematics—regarded as of superhuman power—was supposed to have got his learning from Egypt—invented the word *Philosopher*—originated a *Secret Society*—lived only for the sake of Wisdom—was in favor of Aristocracies—his system of Philosophy *not* known—regarded abstractions as the only materials of Science—his great principle was “Numbers are the principles of all things”—regarded numbers as *entities*, not *symbols*—maintained the Soul and Intelligence to be a certain combination of numbers.

## XENOPHANES

was a *Rhapsodist*—his Poetry was elegiac, gnomic—looked at the *dark side* of things—taught that truth and science are for all men—Philosophy was, “God is a *sphere*”—taught Monotheism—his monotheism was Pantheism.

## PARMENIDES

taught the difference between the ideas obtained through *Sense* and those obtained through *Reason*—anticipated the celebrated doctrine of “*Innate Ideas*”—maintained the existence of two “*Causes*”—the one to satisfy sense, the other to satisfy reason—taught that thought is dependent on organization—the strongest physique, the strongest thinker—taught the Finitude of the Creator—the uncertainty of all knowledge

## ZENO OF ELEA

appreciated the superiority of Intellectual pleasures—preferred the recompense of conscience to worldly rank—invented the Logic celebrated as *Dialectics*, a refutation of error by the “*Reductio ad absurdum*,” successfully afterwards used by Socrates and Plato—dealt in prose writing—held the same doctrines as Parmenides—taught that there was no such thing as Motion. The *Dialectic Method* created the “sophists” and “sceptics.”

## HERACLITUS

taught “Life to be a *comedy* to those who think; a *tragedy* to those who feel”—was called the “*crying*” Philosopher—retired to the

mountains and lived on herbs and roots—aim of his life, to explore the depths of one's own Nature—taught the uncertainty of *sensual* impressions and the certainty of "Reasoning"—maintained the senses as a source of knowledge, ill-educated sense gives error, the rightly-educated sense, truth—suggested that the principle of all things is *Fire*—taught the vitality of Nature and mutability of earthly things.

#### ANAXAGORAS

was the master of *Pericles*, *Euripides* and *Socrates*—was banished because he attacked the religion of his day—taught that the Senses can be depended upon for phenomena (appearances) but not for Noumena, the "substratum" "or substance"—"Intelligence to be of all things the purest and subtlest, and has entire knowledge of all"—taught Intelligence as the God of all things, his Intelligence the "*arche*"—admitted both "*Sense*" and "*Reason*"—had a principle, "*Homœomeriæ*," by which he represented Infinite Matter—not changed by combination.

#### EMPEDOCLES

was wealthy, and cared not for worldly honors—possessed great control over the people of his time—was ostentatious in dress—was an Electic, or a believer in the superiority of Reason—taught *metempsychosis*—abstained from animal food—regarded *Earth*, *Air*, *Fire* and *Water*, as the primary elements—taught that *Love* was the "creative" power, *Hate* the "destructive" power—taught that God was a sphere in the bosom of Harmony fixed, in calm rest, gladly rejoicing.

#### DEMOCRITES

was called the "*laughing*" Philosopher, the antithesis to Heraclitus, "*crying*" Philosopher—was wealthy, entertained Xerxes—was the greatest traveler among the ancients—declined political power—led a quiet, sober life—taught that "*Sensation*" and "*Reflection*" constitute all knowledge—asked the question: "How do we perceive external things?"—supposed that all things were constantly throwing off images of themselves, which enter the soul by the pores of the sensitive organs, the *images* being imperfect our knowledge is necessarily imperfect—perfected the theory of Anaxagoras in regard to "Atomic Combinations," thus anticipating Dalton.



## THE SOPHISTS,

a calumniated race—misrepresented by Plato—have been misnamed—were professors of Rhetoric—sophist signified at first a “*wise man*,” “to make the worse appear the better was their grand aim”—demanded enormous *sums* for their “*Art*.” Athenians would not have tolerated a system that at once destroyed all truth and morality—Architects, Sculptures, Poets and Philosophers, as Athenians were, would have ignored it—were wealthy, and the intellectual leaders of their age—had no doctrine in common—taught the art of disputation—were fond of law-suits—Corax and Tisias wrote on the art of disputation, Protagorus on the most remarkable points of Law, and Gorgias composed a set accusation and apology for every case that could present itself—in Athens every citizen his own Lawyer—Greeks did not regard the teachings of the Sophists as corrupt.

## PROTAGORUS

could not believe in the *Atomic* theory or in *Reflection*—supposed thought and sensation the same, that all knowledge therefore was phenomenal—Man the measure of all things—what man perceives exists, what he does not perceive *does not* exist—convinced of the uncertainty of all knowledge, the wise man is the physician of the soul—*Right* and *Wrong*, among men, is not from *Nature* but from *Convention*—for man there was no eternal right, because there was no eternal truth—protested against metaphysics.

## SOCRATES.

The sophists had slighted Truth—Socrates made her a mistress. Sophists professed to teach everything—Socrates knew that he knew nothing. Socrates accouched others of their ideas, and then decided upon them as regarded whether they were fit to live—was renowned for his wisdom—his avocation was to expose error—rude and ungainly in his manners—went barefooted through the streets of Athens, absorbed in thought—in market places disputed with all who were willing—corporeal appearance very poor—nose flat, upturned nostrils, thick lips, squab figure, big belly—his father was a sculptor, so was Socrates—did not try to account for the existence of the universe, but tried to find his path through it—had a trouble with his wife—said he married her, being convinced that if he could endure her, he should be able to endure all others—served in three military campaigns, distinguished himself in all.

Plato said that Socrates ought to have had the prizes awarded to himself—proclaimed the supremacy of *Virtue* and *Justice*—braved tyrants and mobs—was once a Senator, the only office he ever held—always said that he knew nothing—to any one who professed knowledge, he stepped up and asked to be instructed—soon made a web that entangled his instructor—wrote no books—did not lecture—taught only by conversation in public places—taught that only the wise could govern—if unwilling to trust yourself in a ship without an experienced mariner, why trust the State to an inexperienced ruler?—was charged with impiety and executed, because he opposed Mythological interpretations—was tried and condemned politically—Plato, then a young man, present at his trial—welcomed death as a new birth to a higher state of existence—on the last day of his life held a conversation on the “*Immortality of the Soul*,”—was author really of the Inductive method of Reasoning—proceeded from propositions the best known, to those the least known—was among the first who attempted a classification of things—invented *Genus* and *Species*, which originally meant “*family*” and “*form*,”—*applied the same method* to the investigation of Man and Society, that Bacon did to Physics—taught men that all their knowledge was a sham—made the common mistake of mistaking the definitions of things for the things themselves—called by Plato and Aristotle master—proposed “the *nature and condition* of things” as the grand question of philosophy—his philosophy taught, “*Know Thyself*,”—regarded virtue and knowledge as *identical*—believed in an inward “*Monitor*,” a Demon, as he called it—was regarded as the grandest figure in the world’s *pantheon*—the bravest, simplest, truest, and wisest of mankind. See dialogue with Aristodemus and Enthydemus.

#### EUCLID

was an Eleatic, and joined to this the Morality inculcated by Socrates—maintained that there was one unalterable *Being*, to be known by Reason only—regarded Him as the source of all goodness—plan of reasoning was to attack *conclusions*, not *premises*.

#### ARISTIPPUS (*the Pleasure Philosopher*),

was fond of luxury, but avoided excess—“A fellow of infinite mirth,”—was the precursor of Epicureanism—shared the opinions of the sophists with respect to the uncertainty of *science*, but was no sophist—was good at *repartees* and *puns*. Socrates taught that

*Happiness* was the desire of all men, and that this was obtained by the regulation of the Senses and Desires. Aristippus did not differ with Socrates about the aim, Happiness, but said that happiness meant "*pleasure*." "*Pleasure*" he regarded as the only positive test of what was good. With the sophists he regarded *pleasure* and *pain* as the criteria of actions—no action being, in itself, either good or bad, but only such according to convention.

ANTISTHENES (*the Cynic*),

renounced his own philosophy and came to Socrates to learn wisdom—said "I would rather be mad than sensual,"—advantages of philosophy, he said, enabled him to keep company *with himself*—being told that he was praised by some, he asked, "*Have I done anything* WRONG, that I should be praised?"

DIOGENES (*Prince of Cynics*),

subjugated all sensual desires—ignored the wants of the body—carried on a war of the Mind against the body—tried to live on raw meat and unboiled vegetables, and failed—wore as dress nothing but a cloak—performed private acts in public, decency of every kind he studiously avoided—had a philosophical Reason for annoying people with indecent gestures—lived in a *Tub*—to the polished elegance of Athenian manners the cynics opposed the coarsest vulgarity—despised all kinds of enjoyment—took a pride in simplicity and poverty, because *luxury* and *wealth* were fashionable—went to a party at Plato's house unbidden, and said, "thus I trample on the pride of Plato,"—was ostentatiously poor—in correcting the effeminacies of the age, outraged all its decencies—meeting with Alexander the Great, Diogenes was asked by his excellency what he could do for him. Diogenes replied, "stand from between me and the sun." Alexander remarked, "were I not Alexander, I would be Diogenes." On a certain occasion went in daytime about the streets with a lamp, and on being asked what he was in search of, he answered "*A Man*"—opposed the sophists with facts—when sophist on a certain occasion was arguing against the *possibility* of Motion, Diogenes got up and walked. Instead of speculating about virtue, cynics endeavored to be *virtuous*.

PLATO

was loved for his views of *Love*; religious love him for his doctrine on the *Immortality* of the soul; literary critic for his



clearness on metaphysics and his eloquence—was not an “*Idealist*”—was a “*Dialectician*”—his *Morals* and *Politics* were the *ne plus ultra* of logical severity—Plato the man, completely absorbed in Plato the *Dialectician*—looked upon human passion as a disease, and human pleasure as frivolity—style of writing “a middle species of diction between verse and prose.” (Aristotle.) Style difficult and tedious—ideas good but not easily acquired—was born during the most active and brilliant period of Grecian thought and action—many fables respecting him—education good—skilled in the Pythean games—attached importance to Gymnastics as doing for the body what *Dialectics* do for the mind—cultivated Poetry, Music, and Rhetoric—visited Egypt for information—taught his disciples gratuitously—visited Sicily, affronted *Dyonisius* there, who had him sold as a slave—his purchaser Anneceris set him free and he returned to Athens—Lecturing and writings his chief occupations—was melancholy—smiled sometimes, but never laughed—had many admirers, but no friends—composition of his *Dialogues* the only solace of his declining years—did not like Poetry—looked upon Poets as inspired madmen, unconscious of what falls from their lips—was a great but not an amiable man—his works great but only suited to an impossible state of society—his ethics the ethics of a Logician and not those of a man who understands human nature and sympathizes with the complexities of life—wrote pretty much in the form of dialogue, three classes, elementary, progressive, constructive—has been accused of having two sets of opinions, “*esoteric*.” “*exoteric*”—his doctrines, as quoted by moderns, incongruous, owing to misconception in part, and in part to circumstance, that he changed many of his early opinions—had no Method really—inherited all the knowledge of his age—seized upon the Socratic Method, and enlarged it—also adopted the leading features of the Pythagoreans and the Eleatics—was the culminating point of Greek philosophy—services rendered to Philosophy by Socrates and Plato related more to the *method* of seeking truth than to truth itself—taught the important point that to know a thing, you must also know “*what it is not*”—taught the important processes, Analysis, Synthesis, Generalization, Classification—taught *Dialectics*, the art of *Thinking*, of *Discussing*—looked on the Soul of man as being in a state in this world which keeps longing to be released from its earthly prison—and that it is all the time striving to get glimpses of that eternal truth where it would

some day rest—regarded truth as foot marks on the perilous journey and guides into the wished-for goal—regarded *Time* as nothing more than the wavering image of Eternity—was a Realist, Realists believed all abstract ideas, as Sin, Virtue, etc., have a real existence—declared his inability to explain the real nature of the soul, tried to paint a picture of it—compared it (the soul) to a chariot, with a pair of winged horses and driver—thought the Gods have the largest souls—thought when a soul reached its highest degree of perfection, it attained to the height of the *Realities*, the things of Eternal existences, and was out of the way of all harm—but if weighed down by vice, soul entered another body, this living virtuously and improving, soul at next migration entered a better body; if it *degenerated*, entered next time an inferior body, until at last occupied the body of a *brute*—required *ten thousand years* for the soul to reach its pristine state—human bodies, after having been adjudged bad, received their sentence for punishment under the Earth, or were elevated to places in Heaven if their deeds had been good—basis of the Platonic Philosophy, *Dialectics*, (Logic)—the subject matter of his *Dialectics*, Ideas—method of *Definition*, *Analysis* and *Induction*—God the bottom of all Ideas, just in the same way that Ideas are at the bottom of all Phenomena—God the one Being comprising within himself all other beings—God arranged Chaos into Beauty—nothing Beautiful but *Intelligence*, and as there is no Intelligence without a Soul, placed the soul in the Body of the world and made the world a great Animal. (Here commenced Pantheism). Plato's ethics were the result of Logical conclusions rather than of Ethics proper, or a study of *Human Nature*—Goodness and Truth convertible terms, and virtue the same as science—*Knowledge* alone does not constitute happiness; nor can virtue be taught—set the Passions aside as disturbances of the moral economy, as the cause of moral disease—endeavored to apply his Ethics to the Politics of the State—taught that he who does an injury suffers more than he who endures it—his views of a Republic entertained by many of the best thinkers of the present day—weakness of man is the cause why States are formed—society should be an image of man himself—union of intellects should form but one *Intelligence*—man's virtues, Wisdom, Fortitude, Temperance, and Justice—first duty of Rulers to instil into the minds of the citizens just notions respecting God—those who attributed to the Deity the passions and imperfections of

men should be banished, hence the Poets were banished from the government—Poets enervate the Soul by pictures of *immoderate desires*; they give imitations of vices and follies of men—equality of mind his ideal of human happiness—Poetry and Music interferes with this equality, and so does conjugal love—as however the State needs children, they must be begotten—taught that Parents are foolishly fond, so are Husbands—that violent women are to have mild men and violent men mild women—ordained a Community of wives—women should share with men the toils of War and Agriculture—as some few women manifest a capacity for Philosophy these should share in government—(*Woman's Rights!*)—taught property, as the great disturber of social life; property should, therefore, be abolished—the State alone should have riches. (Communityism!)

#### ARISTOTLE

born at Stagira, in Macedonia, a port of Greece—was rich in money—his father, Nichomachus, a physician, who wrote several works on medicine and natural history—his first instructor Proxenus—a pupil of Plato for 17 years—Plato regarded him as the “*mind of his School*”—did not agree with Plato in all he taught, but did not quarrel—read up all the literature of his predecessors—became the instructor of Alexander, the Great—Alexander and Philip both contributed freely to the expenses incident to gathering the materials for the “*History of Animals*,” (two hundred thousand pounds sterling)—thousands of men placed at his disposal for the collection of specimens in zoology—made many discoveries, and many of his observations valid at the present time—opened a school in Athens, at the Lyceum—students more numerous than at Plato’s—lectured while walking, and hence his disciples called Peripatetics—his lectures of two kinds, “*scientific and popular*”—former for more advanced students—wrote a great number of works, only one-fourth of which extant—his works exercised a great influence over European culture—were translated into Syriac and into the Arabic languages—*Logical* works translated into Latin, and furnished the Philosophy of the *schoolmen*—his influence extended over 20 centuries, and recognised in England, Bagdad, Cordovia, Egypt, and every European nation. *Method of Socrates*, one of Investigation—that of Plato, of Analysis and Classification—Aristotle’s, one of *Demonstration*—Plato, Ideal-



ist and Rationalist—Aristotle, an Empyric and Materialist—taught observation as the proper *Method* of investigation and *Experiment*, the *instrument*—insisted upon *Observation* and *Generalization* of facts as alone capable of furnishing correct ideas—differed from Bacon in supposing that he could comprehend the Causes, Essences, etc.—use of the word *Dialectics* differs from Plato's—Plato's the Science of *Being*, Aristotle's the Instrument of Thought—Logic prized, more than any of his works, by posterity, still lives—taught that every thing that we think about may be reduced to a Proposition—thoughts are a series of Propositions, to understand the whole nature of Propositions is the province of Logic—taught Logic as the organon of science—had ten Categories: Substance, Quantity, Quality, Relation, Action, Passion, The Where, The When, Position in Space, Possession—under these every thing may be classed—taught the principle of Contradiction to be the deepest of all; for on it all Demonstration is founded—taught that to *be* and *not to be*, is impossible.

We might append here a synopsis of the doctrines of the philosophers of more modern times; but it will be found, by those who have the curiosity to look into, for instance, Bacon, Descartes, Spinoza, Locke, Leibnitz, Berkeley, Darwin, Kant, that they scarcely raise a question not previously thread-bare with the Greeks. The Induction and Classification, insisted on by Bacon, as an example, had not only been foreshadowed by Socrates, but were absolutely taught by both Plato and Aristotle. The labors, indeed, of all of these truly great philosophers have been mostly on Method; and in this line their contributions are invaluable, especially those of the first two.

We invite, in conclusion, our friends, the "*Reformers*," to read and ponder over the above chapter, and then ask themselves whether they ever had an idea or a thought on any of the "*immaterials*," that had not its archetype in speculations more than twenty centuries old.

*Notes on some of the Chemical Reactions of Nicotine and Daturine.*  
By T. G. WORMLEY, M.D.

The nicotine used in the following experiments had a slight amber color, and a peculiar acrid odor. The fractions refer to the fractional part of a grain of pure nicotine, in one grain of water.

### 1. BICHLORIDE OF PLATINUM.

1.  $\frac{1}{1000}$ th, grain of nicotine in one grain of water, gives with this reagent, an immediate yellow cloudiness, which increases and gives in a little time a rather abundant deposit of orange-yellow crystals, and yellow amorphous matter. The precipitate is insoluble in acetic acid. The amorphous part of the deposit dissolves rather readily in a few drops of hydrochloric acid, but the crystals require some time and stirring before they disappear. If upon the addition of the reagent, the solution be stirred with a glass rod, it will give immediate rings of crystals, and the precipitate will be more copious than without the stirring. The form of crystallization is totally different from that produced by the reagent with ammonia.

The same amount of nicotine in the form of chloride, gives with the reagent an immediate precipitate, which is entirely crystalline.

2.  $\frac{1}{5000}$ th, it is some time before a slight cloudiness appears, but if the solution be rubbed, very soon granular rings appear, and in a little time there is a quite satisfactory deposit.

### 2. TERCHLORIDE OF GOLD.

1.  $\frac{1}{1000}$ th, gives an immediate copious canary-yellow amorphous precipitate; not entirely soluble in several drops of acetic acid. If several drops of the solution be precipitated by the reagent, and the mixture be then heated, the precipitate dissolves and gives a purple solution.

2.  $\frac{1}{10000}$ th, a good yellow amorphous precipitate, which slowly dissolves in a few drops of strong potash solution. If the precipitate from several grains of the solution be heated, it dissolves, and is reprecipitated unchanged upon cooling.

3.  $\frac{1}{50000}$ th, immediately begins to give a greenish-yellow, which very soon becomes a rather copious dull yellow precipitate, readily soluble in a drop of potash solution.

4.  $\frac{1}{100000}$ th, a rather good greenish-yellow precipitate.

5.  $\frac{1}{200000}$ th, in a few moments a bluish-yellow, which in a little time becomes a rather good greenish-yellow deposit.

6.  $\frac{1}{40000}$ th, in a very little time a cloudiness is perceptible, and soon there is a quite distinct deposit.

7.  $\frac{1}{60000}$ th, after some little time there is a quite satisfactory cloudiness.

With the chloride of nicotine the reagent seemed to not give quite as good reactions as above stated.

### 3. CHLORIDE OF MERCURY.

1.  $\frac{1}{100}$ th, gives an immediate copious white flocculent precipitate, which changes to canary-yellow, and in a little time becomes partly crystalline.

2.  $\frac{1}{500}$ th, a copious dirty white precipitate, readily soluble in acetic acid.

3.  $\frac{1}{1000}$ th, a cloudiness begins in a few seconds, and after a little time there is a quite good bluish flocculent precipitate.

4.  $\frac{1}{2500}$ th, after some minutes there is a slight cloudiness.

### 4. NITRATE OF SUBOXIDE OF MERCURY.

1.  $\frac{1}{100}$ th, an immediate dirty brown amorphous precipitate.

2.  $\frac{1}{1000}$ th, a yellow-white precipitate.

3.  $\frac{1}{5000}$ th, a rather good dirty white precipitate.

The soluble salts of lead, copper, nickel, cobalt, and several other metals, will give precipitates with rather strong solutions of nicotine.

### 5. IODINE IN IODIDE OF POTASSIUM.

1.  $\frac{1}{100}$ th, gives a copious red-brown amorphous precipitate, which will soon dissolve if there is not excess of reagent. The precipitate is readily soluble, with a clear solution, in a few drops of solution of potash.

2.  $\frac{1}{1000}$ th, a copious red-brown precipitate.

3.  $\frac{1}{10000}$ th, a good red-yellow precipitate.

4.  $\frac{1}{20000}$ th, a greenish-yellow precipitate.

5.  $\frac{1}{60000}$ th, gives a quite good greenish deposit.

6.  $\frac{1}{100000}$ th, gives a very obvious precipitate.

7.  $\frac{1}{500000}$ th, gives a perceptible cloudiness.

### 6. BROMINE IN BROMOHYDRIC ACID.

1.  $\frac{1}{100}$ th, gives a copious yellow precipitate, which in a little time dissolves, and is reprecipitated upon the farther addition of reagent.



2.  $\frac{1}{1000}$ th, much like 1.
3.  $\frac{1}{5000}$ th, gives a very good greenish precipitate, which soon dissolves, and is not reprecipitated upon addition of reagent.
4.  $\frac{1}{10000}$ th, a slight cloudiness which soon dissolves.

#### 7. CARBAZOTIC ACID.

1.  $\frac{1}{100}$ th, an immediate copious green-yellow amorphous precipitate, which will soon dissolve if there is not excess of reagent. In a little time the precipitate becomes crystalline.

2.  $\frac{1}{500}$ th, a copious green-yellow precipitate, which is very soon a mass of crystals.

3.  $\frac{1}{1000}$ th, a rather copious greenish precipitate, which soon crystallizes.

4.  $\frac{1}{10000}$ th, gives a very good green crystalline precipitate.

5.  $\frac{1}{40000}$ th, the precipitate is just perceptible.

The chloride of nicotine gives the same reactions as those above stated. The reagent was dissolved in alcohol.

#### 8. TANNIC ACID.

1.  $\frac{1}{100}$ th, gives a copious white amorphous precipitate.

2.  $\frac{1}{1000}$ th, a good bluish white precipitate.

3.  $\frac{1}{10000}$ th, gives a slight cloudiness.

With a solution, holding  $\frac{1}{100}$ th of its weight of nicotine, neither of the following reagents will give a precipitate: the chromates of potash, ferro, nor ferricyanide of potassium, sulphocyanide of potassium, nor gallic acid.

For the purpose of extracting nicotine from its solution in water, it has been usual to recommend agitation of the solution with *ether*. From some experiments made upon this point, it would seem that nicotine is not readily removed from its water solution by ether, for 1. One grain of nicotine in 100 grains of water, was agitated with several times its volume of ether, without very obviously diminishing the strength of the water solution; the operation was repeated until about thirty volumes of ether were used; the water solution still gave with the various reagents much better reactions than was obtained from a  $\frac{1}{500}$ th solution of pure nicotine. 2. 100 grains of a  $\frac{1}{1000}$ th solution of nicotine was agitated at different times, with several times its volume of ether; when twenty-five volumes of ether had been used, the water solution gave with chloride of gold and carbazotic acid, more copious precipitates than a  $\frac{1}{2500}$ th solution of nicotine.

Experiments made with the chloride of nicotine, by decomposing by potash, and extracting by the usual method, gave about the same results as stated above.

One volume of a  $\frac{1}{1000}$ th solution of nicotine was agitated for some minutes with five volumes of *chloroform*. After separating the liquids, the water solution gave with chloride of gold and carbazotic acid, about the same reactions as a  $\frac{1}{40000}$ th solution of nicotine. The chloroform evaporated in a water bath, and the drop of oil-like fluid left, dissolved in water, showed, when treated by the various reagents, that very nearly all of the nicotine had been taken up by the chloroform.

#### DATURINE.

In the May number of this Journal, some of the chemical reactions of *atropine* were given. The atropine used for the experiments was obtained from Luhme. Since then a specimen of *daturine*, obtained from E. Merck, of Darmstadt, has been examined; it was crystalline, in beautiful brilliant needles. When submitted to the various reagents already given for atropine, the daturine gave precisely the same results; the same reagents producing the same kind of precipitates, which behaved in all respects the same as those obtained from atropine. The limits of the various tests were also the same. Bromine in bromohydric acid gave the same kind of crystalline precipitate. A  $\frac{1}{1000}$ th solution treated with potash, gave an immediate amorphous precipitate, which soon changed to crystalline needles; in this the daturine differed from the atropine, as there was a failure to obtain crystals from the latter substance, when acted upon by potash solution; this difference, however, may have been due to difference of purity of the alkaloids. The two substances were also submitted to a variety of comparative reactions, not stated in the article upon atropine, and in no respect were they found to differ. They appeared in fact to be identically the same.

These results accord with the investigations of Dr. A. von Planta,\* in which he assigned to the two alkaloids the same ultimate composition,  $C_{34} H_{23} N O_6$ , and the same chemical properties.

1. *Extraction by Chloroform*.—One grain of daturine dissolved rather readily in 400 parts of water at the ordinary temperature; this solution was then agitated for some time with *four volumes* of

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\* Chem. Gaz., vol. viii, p. 349.

*chloroform*; after separating the fluids, the chloroform was evaporated on a water bath to dryness; it left a gum-like tenacious residue, which weighed .85 of a grain. This residue when dissolved in water, and then treated by the various reagents, proved to be pure daturine, not having undergone any decomposition in the transfer.

2. *Extraction by Ether*.—One grain of daturine, treated as above, and agitated with *four volumes* of *ether*, and the ether evaporated to dryness, left .80 of a grain of the same kind of residue of pure daturine as furnished from the chloroform. In this case the daturine distributed itself equally through the five volumes of fluid.

COLUMBUS, O., Aug. 25, 1860.

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*A New Operation for Procidencia Uteri, with a Successful Case.*  
By JOHN O. BRONSON, M.D., Prof. of Surgery in the New York Preparatory School of Medicine, &c., &c.

On Tuesday, the 21st of February, 1860, I was consulted by Mrs. B——, of Brooklyn, N. Y., for procidentia uteri of the most severe character, with which she had been suffering for six years. She was twenty-six years of age, had been married eight years, and was the mother of one child, six years old.

It was ascertained that she was in labor but about nine hours when giving birth to her child, and did not get up unusually early. She did well for about three weeks or a month, when her womb prolapsed, and at the end of two months protruded beyond the vulva. In a short time it assumed a large size, and by each monthly flux increased until it became of such magnitude as to prevent replacement by herself.

By constant exposure to the air and to contact with her clothing, ulceration was produced. This added to the hypertrophy of the organ, and of course increased the procidentia.

The length of time this condition of things had existed began to affect the constitution of the patient, and from the pain produced by motion she became almost helpless. Her forlorn condition forced her to seek advice, and having heard of the success which followed my operations in such cases, she came to me for relief.

Receiving my opinion, she desired an operation, which was fixed



to be performed on the following week. Having taken board in town, on Monday, the 27th day of February, five days after the above mentioned consultation, treatment was commenced by replacing the prolapsed organ, and directing the patient to maintain the recumbent position. Before replacing, however, the following particulars were gained :

The cervix measured two and three-quarter inches in diameter, greatly indurated and ulcerated. Os tincae not very patulous. The internal measurement of the uterus was four and three-quarter inches. The body as well as the cervix was indurated and hypertrophied. The sacrum was rather straight. The perineum was perfect.

On the following Wednesday, the patient, having passed over or become accustomed to the symptoms produced by the replacement of the organ for so long a time prolapsed, and her bowels having been freely emptied, was deemed in condition fit for the operation.

Anesthesia having been produced by chloroform, the patient was placed supine, with her lower extremities flexed upon themselves and upon the pelvis, as if for the application of the forceps. Upon inspection of the parts, I found the vagina so very capacious that I gave up the idea of operating in my usual method, of removing a portion of the mucous membrane from the posterior wall, and the use of the instrumental suture I designed for such cases, and concluded to operate on the principle that the vagina being inverted in cases of procidentia, it could not be, if closed longitudinally through the median line for a short distance, however large it might be. So removing the mucous membrane from the vaginal wall on both sides for the space of five-eighths of an inch wide and two inches long, I applied four iron wire interrupted sutures to the denuded surfaces, as if they were the two sides of a simple incised wound, the lower border being the bottom of the wound, introducing the sutures at points three-eighths or half an inch from the superior border of the vivified surfaces, passing them out below at the margin of the denuded surface, to enter and appear at corresponding points in the opposite side.

The parts were brought into close and perfect apposition, and the sutures were twisted so as to maintain the coaptation, and left to remain until such time as was deemed expedient to remove them. Perfect union had taken place on the fourth day, but I thought it prudent to leave the sutures, lest by distending the parts the adhe-

sions might give way. On the eleventh day after the operation the sutures were removed. Union of the two surfaces was complete, save at the upper end, where the highest or upper suture had produced ulceration and cut its way out.

The uterus had considerably diminished in size, but more in weight. The recumbent posture was advised for a little longer time—the parts to be frequently bathed, and an occasional application of iodine to the cervix uteri to be made.

On the 26th of March, just four weeks from the time of replacement of the organ, and the same time, less two days, from the operation, the patient was allowed to depart to her home, the uterus being maintained in its position by means of a small water-pessory. It was not thought prudent to allow the patient on her feet without such support, as long as the uterus was possessed of any hypertrophy or abnormal weight.

At the present time the patient is attending to her household duties, suffering from no symptoms betokening a return of the previous condition.

The operation was performed in the presence of and with the assistance of Drs. E. Blackwell, S. L. Cushing, D. A. Hughes, and F. Prentice.

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## American and Foreign Intelligence.

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*Lectures on Experimental Pathology and Operative Physiology*, delivered at the College of France, during the Winter Session 1859–60, by M. CLAUDE BERNARD, Member of the French Institute; Professor of General Physiology at the Academy of Sciences.

GENTLEMEN:—We shall continue to-day the comparative study of the diseases which arise in man, and those which affect the lower animals; and in this lecture we shall bring to a close this important subject.

The nervous system, as we have sufficiently proved, is the agent through which the vital powers almost invariably exert their influence; but the nerves themselves, in the manifestation of this activity, are inseparably connected with muscular tissue: motion is, in fact, the only symptom which reveals the presence of nervous

power. We, therefore, invariably discover, in all the phenomena which belong to this class, three distinct stations—a centre from which the impulsion starts, nerves which transmit, and muscles which obey it.

Our last lecture was entirely devoted to the study of certain affections in which nervous influence does not appear to interfere—we allude to septic, virulent, and contagious diseases; but even in such cases, the nervous system almost inevitably plays a part in the production of the internal disorder, which results from the introduction of similar poisons into the economy. Let us adduce an instance of this. We shall select an example from the phenomena of embryology. The evolution of the ovum takes place according to well known rules, which have been established by direct observation; all its successive stages have been attentively watched in various animals, and it has been discovered that vessels and nerves which at the outset do not exist, make their first appearance at a given moment. Now, if certain poisons are introduced into the ovum during the first period of its development, the process of evolution is not interfered with, provided that heat, moisture, and the other external conditions, remain precisely the same as before. But, as soon as vessels and nerves have been formed, the ovum is immediately poisoned, and its vital activity at once extinguished. Here, then, we find certain phenomena connected with development, which appear in some measure to depend on nervous influence; but it must be acknowledged, that in the greater number of cases the reverse takes place, and that the powers which preside over the historical evolution of tissue are totally distinct from all other biological motors, and enjoy complete independence in their action. We are, therefore, compelled to admit the existence of three principal classes of phenomena within the living body, which, although closely connected through reciprocal influence, exist independently of each other.

Firstly—Nervous phenomena, embracing all the mechanical actions of life;

Secondly—Catalytical phenomena, embracing the various kinds of fermentation;

Thirdly—Histological phenomena, embracing the entire results of cellular evolution, or the process of development.

The two first classes of physiological agents, viewed in connection with the origin of disease, have been examined in our previous lectures; it now remains for us to investigate the latter—viz: the morbid phenomena superinduced by disordered powers of evolution.

It can not be denied that during the first period of embryonic life, the development of tissue is in no way connected with nervous influence. The nerves have not yet been called into existence, and are only created at a later period, through the agency of that mysterious force which presides over the evolutions of the being so lately called into life. The vascular system being for similar motives, set aside, we discover, in the very first stage of existence,



nothing but the primitive cell, and the medium in which it grows to maturity. But micographists do not entirely agree in the view they adopt of the first step which commences that long series of successive evolutions, by which an entirely new living being is ultimately produced. That within an entirely amorphous medium, a living cell might spontaneously be produced, was the opinion of Schwann; but, in our own days, these views appear to have been completely laid aside; modern investigators are convinced that all living organizations are invariably derived from one primitive cell, which, by its divisions, and subdivisions, gives birth to all the rest; now, this primordial element originates, of course, with the animal's parents.

We met, however, with cases in which it seems altogether impossible to deny that one or several primitive cells have been spontaneously generated within a medium which previously contained no vestige whatever of histological elements. The serum of blood, for instance, when introduced into a vessel hermetically closed, is found to contain, after a few days have elapsed, a large number of yeast-cells, which the grape-sugar dissolved in this liquid has probably produced; and yet, when carefully examined under the microscope, immediately after coagulation had taken place, it did not contain a single nucleus or cell. Similar results frequently occur for notice; and, in more cases than one, the mere process of subdivision and multiplication will not be found sufficient to account for cellular development.

In the adult the phenomena of evolution continue to exist, and although far less extensive than during foetal life, they are almost equal in importance. Thus, in certain animals, organs are found, which momentarily disappear, and are subsequently reproduced. Hunter observed that the sparrow's testicle, reduced during winter to the smallest possible bulk, promptly returns to its primitive size during the first days of spring. Mr. Stanlius has collected all the cases of similar reproduction which have been noticed in the animal series; thus in hibernating mammals, for instance, certain parts of the body are completely atrophied during winter, their functions being suspended for a time; some nervous ganglia are even found to disappear, more especially those connected with the genital organs; but as soon as the physiological activity of these parts is awakened, they are called a second time into being. Hunter also discovered that in the pigeon a peculiar organ, no vestige of which exists in the animal's previous state, is produced during the latter part of incubation; the mucous membrane of the gizzard becomes tumefied, grows vascular, and secretes a new substance, which serves for the nourishment of the young birds when newly hatched. In the humane species (as in all mammals besides), the rapid development of the mammary glands, towards the period of lactation, offers another instance bearing on the same point.

But must we consider these as the only phenomena of a similar nature which take place within the system? Do not mucous surfaces continually secrete new layers of epithelial cells? and is not

the epidermis incessantly renewed on the surface of the skin? Here, then, we discover evident instances of histological development going on during all the stages of life. With respect to muscular tissue, its tendency to increase in bulk under the effects of constantly renewed exertion is perfectly known; but it has been hitherto admitted that the constituent fibres of a muscle may no doubt increase individually in size, but that their number invariably remains the same. A German micographer, Mr. Budge, has lately endeavored to prove the contrary. A frog being reduced by abstinence to a state of emaciation, a small muscle is laid bare, and the number of its elementary fibres ascertained by direct investigation under the microscope. The animal being then properly fed, and gradually restored to a state of health, the same muscle is again examined; and, according to the ingenious observer, the number of its elementary fibres is found to have considerably increased, as well as their bulk.

Let us now consider the morbid manifestations of this power, which never suspends its action within the living body; we allude, of course, to those peculiar tissues which have been styled heteromorphous—an expression utterly condemned by German micographers; for morbid tissue is generated within the economy in strict conformity with the laws that preside over foetal development. But, as we have previously seen, both nervous influence, and catalytical agency, give rise to a variety of diseases when deviated from their proper course; thus, also, in certain given cases, the power of histological evolution may create positive disorder in the system. An immense and uninterrupted movement takes place within the organs of which the body is composed, for the purpose of supplying new tissues, in the place of those which are no longer fit to accomplish the functions devolving upon them; let this unceasing activity be diverted from its proper channel, and the production of tubercle, cancer, and all kinds of morbid deposits, will be the immediate consequence. We find here, as usual, an evident connection between the phenomena of health and disease, between physiological activity and pathological influence. The question which lies before us must evidently be viewed in this light; and such is the principal object of Virchow's labors on cellular pathology, the leading features of which it is our purpose to make known to you. But before entering into the study of this particular point, a few general notions on the subject can not safely be dispensed with.

Some diseases, in the first place, result from total absence or considerable deficiency of normal evolution on a given point. The mucous coat of the intestinal tube affords us a fine example of incessant development. New layers of epithelium are continually being secreted, to line its inner surface; but a living medium, or blastem, is necessary to their production; and whenever this blastem itself happens to be altered in its essential properties—a modification which always occurs in inflammation—the epithelium disappears, and is no longer regenerated. Cholera also exhibits

another instance of this; for it has been indisputably proved that, in this disease, the vessels which ramify on the internal surface of the intestines are completely laid bare. In his admirable researches on the intestinal mucous membrane, Professor Goodsir has established that, after each meal, when absorption has taken place, the epithelium which covers the villousities falls off, and is renewed during the interval which elapses before food is again introduced into the digestive apparatus—a remarkable instance of the rapidity with which the re-production of tissue frequently takes place. But when, through some pathological agency, epithelium is no longer secreted, what results from its absence? No obstacle is henceforth opposed to serous exudation from the vessels; no protecting surface resists the introduction of various poisons into the economy; and, lastly, no regulating power of absorption any longer exists. In this manner innumerable diseases may be traced back to the suspended activity of normal evolution as their primary cause. The chronic inflammation of the trachea and bronchial tubes likewise destroys the vibratile epithelium, the utility of which is too well known to be expatiated on.

But we meet, at the same time, with other diseases, which arise, not from interrupted, but from perverted evolution. You are, of course, well aware that cells which pursue a regular course in their development comprise three distinct elements—Firstly, an envelope, or cellular paries, the physical properties of which take a prominent share in its action; secondly, liquid contents, the importance of which is principally derived from their chemical composition; and, lastly, a nucleus, in which the powers of development appear to reside. As soon as a morbid state of nutrition supervenes, the contents of the cell are liable to alteration. Whether pigment, or fatty substances, or calcarous salts are therein deposited, morbid tissues are gradually formed, and disease is introduced into the system; and, even, in similar cases, no pathological entity, no abstract principle of disease, is required to explain the fact. The deviation of physiological activity is its only cause. It is therefore evident that, in their successive phases of development, heteromorphous tissues entirely resemble the normal ones, and are subject to the same natural laws. To Müller belongs the honor of having been the first to proclaim this great principle; and he may therefore be deservedly styled the creator of cellular pathology. He was the first to open that path in which Virchow now treads with so much success.

The intercellular tissue, or blastem, is the medium from which the cells derive the elements of their formation; it is, according to Virchow's picturesque expression, their territory. Now, there exist various conditions in which the blastem no longer contains the principles required for the normal development of cells; it is, for instance, indispensable that it should always contain glycose, albumen, and fat; the absence of a single one of these three substances is an insuperable barrier to cellular evolution; and we, therefore, constantly find them existing as well in the tissues of the embryo,



as in those of the adult. But a variety of other conditions, essentially injurious to histological growth, may casually arise; and the existence of morbid blastems, which give birth to all tissues endowed with abnormal properties, may easily be conceived as of possible occurrence. Such are, no doubt, those very general dispositions of the economy, known under the name of diatheses, and which, when once they have firmly established their hold on a previously sound individual, are capable of being transmitted to his posterity; we must evidently consider them in the light of conditions of existence entirely new, which, in the first instance are accidentally produced (for disease must evidently begin somewhere), but which when once called into existence, exhibit a strong tendency to maintain themselves in being. Thus, when food, insufficient in quantity, or of an unwholesome kind, has ultimately reduced to a consumptive state an animal previously enjoying perfectly sound health, its offspring often inherits the morbid disposition which, in the parent, was entirely accidental; and syphilis, that well-known and fruitful source of heteromorphous productions, is similarly transmitted from parent to child.

Such pathological dispositions, or diatheses, result from causes various in their nature, but which concur in one point, viz: the disposition which opposes all modifications favorable to the patient's health. Sometimes they are the result of a profound change in the fluids of the economy; sometimes they originate in the introduction of peculiar poisons, which, after having once penetrated into the system, can in no way be expelled; if there existed, for instance, a poison which none of our organs could eliminate, it is clear that after penetrating into the torrent of the circulation, it would nowhere find an issue, and would in consequence become the origin of permanent modifications in the economy. The possibility of a similar case may be rationally conceived, by referring to the singular fact already mentioned, that iodine when once introduced into the blood, is not eliminated before a long space of time, on account of the affinity which the salivary glands exhibit for this substance; we have, therefore, in this case an instance of a body which can not (for a time at least) be expelled from the system; the animal is, therefore, during that period, laid under an iodic diathesis.

Viewing the subject in an entirely physiological light, it may be contended that individuals affected with local cancers are not properly, so to speak, in a state of disease, as long as the organs affected are not altogether essential to life; but when cancer attacks the limbs, the possibility of a surgical cure may at least be presumed, if not expected actually to take place; and the patient is not really diseased—that is to say, life is not directly brought into danger. Thus, when cancer attacks the liver, if a disease is not too extensive, the morbid productions are separated by large tracts of sound tissue, which fulfill, as in the healthy state, their physiological duties; bile is secreted as usual, and grape-sugar exists within the glandular tissue. But when, at a later period, the dis-

integration of the elements which constitute the morbid production have poisoned in some measure the whole economy, by pouring into the torrent of the circulation fluids, impregnated with the noxious principles, then, indeed, the affection becomes a general complaint, and its nature entirely changes. Cancer is not a diathesis in itself; but the subsequent cachetic state is evidently diathetical.

To conclude the history of these morbid evolutions, there yet remains one to be described; and this is imperfect nutrition. It is evident at the present day that the anatomical conditions, brought so prominently forward in Bichat's celebrated work (a), are quite insufficient to explain all the various modes of dying. Experience has taught us that patients often die without offering, in the post-mortem examination, the slightest modification in the anatomical condition of their organs. In the course of our physiological experiments we often see dogs arrived at the very last stage of emaciation, although the appetite continues unimpaired till the last moment. They sink from sheer exhaustion, while the lacteals are gorged with chyle; and, when opened, their bodies offer no trace whatever of pathological alterations.

The latent cause of this singular process is, that nutrition, when considered within the depths of our organs, is in fact, nothing more than a peculiar mode of evolution. The economy produces within itself substances indispensable to life; glycogenous matter affords us an example of this: formed within the body by a special process, it plays an immense part in histological phenomena. As soon as it fails to be supplied, epithelium is no longer produced; various diseases are the immediate result; and, under similar circumstances, life is inevitably brought to a close. The physiological act called nutrition, comprehends, therefore, two distinct parts: formation of cells is the first; creation of blastems is the second; and the latter is no less indispensable to our existence than is the former; as soon as pathological influences arrest either the one or the other, death is the consequence. There exist, therefore, two distinct modes of dying: sometimes life is cut short at once by an important injury to some essential organ; sometimes, on the contrary, it gradually fails through imperfect nutrition; and this latter termination is the ordinary result of acute diseases, when they prove fatal. In certain cases, for instance, glycogenous matter is no longer produced; and after a given space of time the patient dies, although the appetite remains unimpaired to the last moment. In making the autopsy, the lacteals will be found in a state of repletion; but when analyzed, the fluids of the economy no longer present the slightest vestige of sugar. Death then supervenes, and is the mere result of suspended activity in organs for which proper nourishment is no longer provided.

You therefore see, gentlemen, that to create laws especially intended for the use of pathology can not in any case be justified;

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(a) "*Recherches Physiologiques sur la Vie et la Mort*"

and that physiology furnishes, in every possible condition of health or disease, a key to the interpretation of vital phenomena. These general notions I look upon as indispensable to the study of particular points: it now remains for us, in order to complete this general survey, to examine the all-important question, "Whether medicines act on a sick patient in the same manner as on a sound individual?" and how far the results obtained in one case are fit to be compared with those observed in the other. It is our intention to examine this subject in the next Lecture: its study is an indispensable introduction to the various investigations we are about to undertake; for, after producing artificially—no matter how—a morbid state in an animal, we shall have recourse to the counter-proof, by seeking for therapeutical agents to effect its cure.

*Duration of Gestation in a Medico-Legal Point of View.* By B. L. DODD, M.D., of Newark, N. J.

There is very little certainty regarding the precise duration of gestation in the human female. Fortunately, however, cases are quite rare, in which the legitimacy of a child is to be determined by the period of gestation. Yet, when such cases occur, they must, from the very nature of the case, cause great embarrassment to the medical witness. In view of this, it is very important that we should possess accurate data of all the facts derived from analogy or otherwise, bearing upon the subject.

To fix the "legal limit" of gestation is no easy task. In France 300 days are allowed. Dr. Simpson, of Edinburgh, uses the following language: "I believe our best criterion for fixing the 'legal limit,' or ultimate possible period of gestation in the human female, will be derived from careful and repeated observations upon the ultimate period of gestation in the cow; allowing always for the difference of four or five days of excess in the normal period of pregnancy in the cow, as compared with the human mother."

Acting upon this suggestion, I have collected the subjoined carefully recorded observations of the periods of gestation in 66 cases, of 13 cows, extending over a period of thirteen years:

*Time of Gestation of Mr. J. R. Burnet's Cows—1844 to 1859.*

1. Dolly—	3. Suky—
1846, 284 days, heifer.	1844, 288 days, heifer.
1847, 288 " bull.	1845, 276 " "
1848, 282 " heifer.	1846, 285 " bull.
1849, 296 " bull.	1847, 280 " "
Sold.	Sold.
2. Molly—	4. Lilly—
1844, 285 days.	1844, 287 days, heifer.
1845, 285 " bull.	1845, 285 " no sex given.
1846, 291 " "	1846, 284 " heifer.
1847, 291 " heifer.	1847, 288 " bull.
Sold.	1848, 293 " heifer.



1849, 295 days, bull.

1850, 290 " "

1851, 288 " "

1852, 292 " heifer.

Last calf at 13 years old.

## 5. Jenny, large brindle cow--

1st calf at 3 yrs., 1847, 281 days, bull.

2d " 4 " 1848, 281 " "

3d " 5 " 1849, 286 " "

4th " 6 " 1850, 283 " h'fer.

5th " 7 " 1851, 287 " bull.

6th " 8 " 1852, 282 " h'fer.

7th " 9 " 1853, 284 " "

8th " 10 " 1854, 284 " "

9th " 11 " 1855, 288 " bull.

10th " 12 " 1856, 289 " "

11th " 13 " 1857, 282 " "

Butchered. This cow is daughter of No. 4, Lilly.

## 6. Sally, white cow--

1st calf at 3 yrs., 1848, 284 days, bull.

2d " 4 " 1849, 290 " "

3d " 5 " 1850, 292 " h'fer.

4th " 6 " 1851, unknown, bull.

5th " 7 " 1852, 278 days, "

6th " 8 " 1853, 279 " h'fer.

7th " 9 " 1854, 276 " bull.

8th " 10 " 1855, 279 " h'fer.

The following spring, this cow died, before calving. Is daughter of Suky, No. 3.

## 7. Polly, out of Molly, No. 2—a mischievous black cow--

1st calf at 3 yrs., 1850, unknown, bull.

2d " 4 " 1851, 286 days, "

3d " 5 " 1852, 280 " h'fer.

4th " 7 " 1854, 283 " bull.

5th " 8 " 1855, 290 " "

Butchered.

## 8. White face, out of Dolly, No. 1--

1st calf at 2 yrs., 1850, 288 days, h'fer.

2d " 3 " 1851, 277 " "

3d " 4 " 1852, 293 " bull.

4th " 5 " 1853, 282 " "

5th " 6 " 1854, 284 " "

Sold.

## 9. Rose, brindle, born in 1851, from White-face, No. 8--

1st calf at 3 yrs., 1854, 282 days, bull.

2d " 4 " 1855, 276 " h'fer.

3d " 5 " 1856, 281 " "

4th " 6 " 1857, 284 " "

5th " 7 " 1858, 276 " bull.

6th " 8 " 1859, 287 " "

## 10. Cherry, lean, red cow, 1853, from Sally, No. 6--

1st calf at 2 yrs., 1855, 274 days, h'fer.

2d " 4 " 1857, 279 " bull.

3d " 5 " 1858, 273 " h'fer.

4th " 6 " 1859, 279 " bull.

## 11. Suky, yellow, 1855, from Sally, No 6--

1st calf at 2 yrs., 1857, 275 days, h'fer.

2d " 3 " 1858, 279 " lost.

3d " 4 " 1859, 281 " bull.

## 12. White face, from Rose, No. 9, 1854--

1st calf at 3 yrs., 1859, 285 days, h'fer.

## 13. Sophy—mischievous red cow, bought at a vendue, at 4 years old, in 1856. Time with first two or three calves unknown.

4th calf at 7 yrs., 1859, 275 days, bull.

The time of gestation in 66 cases, varies from--

273 to 293 days with a heifer calf.

276 to 296 days with a bull calf.

From these tables, it will be perceived that nothing like uniformity exists; the difference between the longest and shortest periods being twenty days, while, at the same time, it will be observed that there is considerable difference in the same individual at different gestations; this amounts, in No. 1, to 14 days. These tables also show that, contrary to the popular opinion, the age of the cow has very little, if anything, to do with the length of the period of gestation, but that this depends rather upon the idiosyncrasy of the animal; some yielding a higher average, and some a lower. Another fact, deducible from these observations, is that the average length of gestation is longer by three days in bull calves, than in heifers.

The French law puts the legal limit of gestation at 300 days. If we take Simpson's position, deducting an excess of four days, the present tables would bring the legal limit in the human female to 293-4 days. I shall continue these researches, and they will in due time be recorded.—*Med. and Surg. Reporter.*

*The Ophthalmoscope and its use in the Diagnosis of the Diseases of the Deeper Parts of the Eye* By J. W. HULKE, F.R.C.S. Assistant Surgeon to the Royal London Ophthalmic Hospital, Moorfields, and to King's College Hospital, London.

The invention of the Ophthalmoscope by Helmholtz, in 1851, marks one of the most salient points in the whole history of Ophthalmic Surgery. Before that time, there were no means of ascertaining with precision the condition of the fundus of the living eye; the blackness of the pupil seemed to baffle all attempts to pierce it, and, cataract excepted, it was only in the advanced stages of a few diseases, such as cancer and sub-retinal dropsy, where the growth or floating tunic had approached the lens that a shrewd guess could be made.

The luminosity of the eyes of the carnivora and ruminants must have often engaged the attention of reflecting minds in all ages, and the red glow of the pupil of the human albino could not have altogether escaped notice; but it remained for later times to show that the fundus of the normal human eye, naturally shines with nearly as bright a reflection as that of the lower animals, to determine the conditions under which this phenomenon may always be observed, and to turn this knowledge to a practical account in the detection of disease. The honor of having made the first step towards this, belongs to Mr. Cumming, who communicated to the Royal Medical and Chirurgical Society, June, 1846, a very valuable memoir, embodying the results of a series of well-contrived experiments and observations by which he demonstrated that the fundus of the healthy human eye naturally furnishes a brilliant reflection; he also laid down the conditions necessary for seeing it; and in the modifications of its color and intensity he sought a means of distinguishing the different diseases of the choroid and retina. His labors did not, however, at the time, receive the attention they deserved, and were soon forgotten.

Erlach, a German Professor, who wore concave spectacles, unconsciously made a very near approach to the discovery of the ophthalmoscope when he noticed that a friend's eye shone brightly at the moment that his friend saw the image of a lamp reflected in his, the professor's spectacles; here the elements of the ophthalmoscope were accidentally present. Until a very recent date it was commonly taught that the blackness of the human pupil depended on the complete absorption by the choroid of the incident rays of light, for which purpose its dark pigment seemed to be a peculiar provision. But this explanation is now known to be incorrect, the apparent blackness of the pupil is a necessary result of the optical construction of the eyeball; for when the eye is fixed upon any luminous point, the rays emanating from it, and traversing the pupil, are collected by the lens, and other transparent media to a focus on the retina, where a corresponding image is formed; after which most of the incident rays are thrown back along the same paths by which they entered, and return to the point whence they

first started. But since some dispersion takes place, a few of the returning rays will reach the eye of an observer, whenever he occupies a position near the direct line that connects the source of light and the eye examined, in which case its pupil will appear to emit a reddish glow, and this is more vivid when the eye is not properly accommodated, because the dispersion is then greater. Now, under ordinary circumstances the observer does not occupy such a position with reference to the source of illumination and the eye observed, and therefore the returning rays do not meet him, and the pupil consequently appears to him black.

It is obvious that the most favorable position for the observer is one that coincides with the direct line between the light and the eye under observation. For the simple illumination of the fundus, Cumming's method was successful, but its practical application to diagnostic purposes was greatly limited, because it did not give images. A few years after the publication of Cumming's paper, Helmholtz, by studying the optical construction of the eye with reference to the causes of the apparent color of the pupil, was led to the invention of the "*speculum oculi*," or ophthalmoscope, which enabled him easily and conveniently to illuminate the fundus of the eye, and to explore its minutest details. His instrument consisted of a mirror of superimposed oblong slips of glass, packed in a frame, which was fixed at one end of a short blackened copper tube, at an angle of about  $30^{\circ}$  to the axis of the tube, the other end of which had a contrivance for holding a concave lens. This end the observer applied to his own eye; a lamp was so placed that its rays fell at a convenient angle upon the mirror which threw them back upon the fundus of the eye under examination, where they underwent a second reflection, and returned to the mirror, this being transparent some rays passed through it, and traversing the axis of the tube and the concave lens, formed an image visible to the eye of the observer. It would be impossible in this place to notice all the modifications which the instrument has undergone. That which I prefer, and am in the habit of using is Liebreich's, which is a small, circular, slightly concave speculum, mounted on a handle, and pierced centrally with a much smaller hole than that generally made in the glass mirrors. Being metal, an accidental fall does not break it, and the smallness of the hole diminishes to a minimum the amount of central shadow in the illumination, that results from the absence of the reflecting surface from the centre of the speculum. A clip for holding a small convex or concave lens is hinged to the frame of the speculum, and folds against its back. Two larger convex lenses, of two and two and a-half inches focal lengths, are usually supplied with this ophthalmoscope, and the whole is packed in a strong portable case which is conveniently carried in the breast pocket of a coat. The source of illumination must be steady; a moderator lamp answers extremely well, but the flame of a candle always flickers so much, that it should only be used when nothing else is at hand. Gas is very convenient, the best arrangement that I have seen is one in use at Moorfields; it is



an Argand burner with very fine apertures, and has a piece of fine wire gauze fitted to the bottom, which subdivides the draught into a great number of smaller currents and makes it very uniform. A short chimney is preferable; a tall one produces too rapid a draught. The burner is fitted to a double jointed arm, which can be raised or lowered, and moved from side to side. The room having been darkened (a thick, lined, green baize blind, sufficiently excludes day light), the patient should be seated on a low chair by the lamp, which ought to be near to the side of his head, and on a level with his eye, which must be screened from its direct rays by a small, blackened tin shield fixed to the arm of the burner; or the same object may be gained by moving the lamp backwards, so that his face is in the shade. The observer standing or sitting before his patient receives the rays from the lamp, upon the ophthalmoscope applied to his own eye which looks through the central hole, and by a slight manœuvre throws them upon the patient's eye, the pupil of which at once shines with a bright red glow. The cornea and lens should be examined before exploring the fundus; beginners often mistake opacities in these structures for those in the vitreous humor and *vice versa*, and it requires some practice to estimate the depth at which opacities are situated. It is well to ascertain previously by oblique illumination, whether corneal nebulae exist, as by so doing one source of error may be avoided. The ophthalmoscope is of great use in diagnosing the early stage of conical cornea, one side of the cone being illuminated whilst the opposite side is in darkness; it is also of the greatest service in detecting commencing cataract, lenticular opacities, which would otherwise escape detection, appearing as black lines and marks upon the red background. The lens and cornea should be examined with a less intense light than that used in exploring the deeper parts; over illumination should always be avoided, it is quite possible to miss seeing faint striæ in the lens when the light is too intense.

In some cases much information will be gained by ophthalmoscopically examining the iris; the edge of the pupil may be adherent to the capsule of the lens, or fringed with false membranes; perhaps a wound of the cornea has been received, there is a mark upon the iris, and it is uncertain whether a foreign body has passed through it and lodged behind. I recorded a case of this kind in the Ophthalmic Hospital Reports No. 6, which I saw through the kindness of Mr. Bowman, where, without the ophthalmoscope, it would have been impossible to have ascertained its true nature. An eye was struck by a chip of iron from a chisel. It became slightly inflamed, but got well in a week. A month after the accident the sight became misty. At this time a small scar was detected near the outer edge of the cornea, and a minute speck of uncertain nature was seen upon the outer part of the iris; it might have been a foreign body, or an echymosis, or uvea, or a complete perforation; the ophthalmoscope showed that it was a hole. When the pupil had been dilated with atropine the superficial parts of the lens were found slightly opaque, and near the posterior surface, be-

low the nucleus, a small piece of iron was plainly visible. For a complete examination of the crystalline lens, and thorough exploration of the fundus, the pupil must have been previously dilated with atropine; but where a mere glance at the entrance of the optic nerve and adjacent region is sufficient, a practised observer can obtain this through the undilated pupil and for several reasons, which affect private practice especially, it is better to abstain from the use of atropine, when we can do without it. The disfigurement caused by the great size of one pupil, and the inconvenience produced by the abeyance of accommodation are often complained of.

To examine the choroid or retina the observer must either approach the patient's eye very closely, in which case he obtains a highly magnified erect view of the fundus; or he holds a bi-convex lens of about two and a-half inches focal length before it, resting a finger on the patient's forehead to keep the lens steady. Holding the lens in this manner by a slight to and fro movement of his own head, he hits off the exact distance at which the image of the patient's fundus is formed; at this moment the confused red glow is replaced by a distinct view of the vessels, etc.

The color of the fundus varies greatly, and a knowledge of its modifications can not be too soon acquired. They mainly depend on the varying proportions of blood and pigment in the choroid. Where the pigment is sparing, as it generally is in fair persons, and the chorio-capillaris is naturally full, the color is a bright orange red; an excess of blood renders the red more decided; a larger quantity of pigment produces a duller or brick-red, which becomes brownish when the pigment is very abundant and the chorio-capillaris anæmic.

When the pigment is very plentiful the surface of the choroid seems to be mapped out in small brown islands separated by lighter yellowish bands indicating the arrangement of the larger vessels. This appearance is due to the greater abundance of the stellate pigment cells of the stroma in the interspaces between the vessels, than upon them. It was Cumming's belief, that the choroidal pigment reflected more highly than the other tissues in the fundus; but this is not the case, for the sclerotic reflects more light than all the other structures conjointly. The sclerotic reflection is a brilliant white, with a slightly yellowish tinge: in transmission through the choroid it acquires a reddish hue, subject to the modifications I have described.

The extreme tenuity and transparence of the retina render it a bad reflector, so that the membrane itself is not usually seen except by an experienced observer, who detects it as a faint haze overlying the choroid; it is best seen in dark eyes, where the abundant choroidal pigment moderates the splendor of the sclerotic reflection, and prevents it overpowering the fainter retinal one. The larger retinal vessels, however, yield beautifully distinct images. The entrance of the optic nerve is a very conspicuous object, and it comes into view when the patient slightly converges his eye. The old term "*papilla*" is inappropriate, because it does not project from the inner surface of the fundus, as was formerly imagined, except very

slightly at its margin; centrally it is slightly depressed; its outline is more or less circular; slight deviations are compatible with health, the most common is an ellipse with its long axis vertical; an oval or elliptical shape with the long axis horizontal is more rare, and I have never met with it except in disease. The optic-nerve-entrance, as I shall call it, has a pinkish white color; a paucity of blood in its capillary net makes it pale white; and when atrophied it has a glistening pearly bluish tint. An excess of blood reddens it, and in extreme hyperæmia its color so nearly resembles that of the adjacent fundus, that its situation is best found by tracing the trunks of the large retinal veins to their confluence. Generally, the arteria centralis pierces the optic-nerve-entrance more centrally than the vein; it appears on its inner surface either as a short single trunk that divides at once into an upper and a lower branch, each of which immediately subdivides dichotomously, in such a manner that a couple of large arterial branches take an upward and other two a downward course towards the ora serrata; or very frequently the artery subdivides within the optic-nerve, in which case several large branches appear simultaneously at the inner surface of the entrance. The arteries have a straighter course than their venae comites from which they are also distinguished by their paler color and smaller calibre. The large venous trunks often make their exit separately, and unite subsequently within the optic-nerve. In addition to the large primary branches several small twigs of the retinal artery radiate in various directions from the optic-nerve-entrance, with the reservation that none run outwards across the "yellow spot," which is supplied by capillaries only, the large branches also passing above and below so as to embrace it. The surface of the optic-nerve-entrance undergoes very important changes in disease, the chief of which is cupping. This is indicated by a bluish white color, and by a sudden diminution of the calibre and an abrupt change of the direction of the venous trunks at its margin. Cupping results from excessive intraocular pressure and atrophy.

Under certain abnormal conditions a spontaneous pulsation is seen in the retinal vessels, the visible movements of the blood being limited to the area of the optic-nerve-entrance, or but slightly overstepping it. This pulsation is generally associated with excessive tension of the globe, of which it is a sign; it may be produced artificially by pressure with the finger. A slight degree of pressure will evoke the venous pulse; it is a rhythmical movement of the blood in the vessel, which is emptied backwards against the course of the current; the swell and collapse of the vein alternate with those of the artery. A heavier pressure produces the arterial pulse, which is synchronous with that at the wrist; and a still greater pressure, arrests all pulsation in the vein and artery, and blanches the entrance of the nerve. When the patient looks straight at the ophthalmoscope the "yellow spot" comes into view. In most eyes this part is characterized by a slight difference of color, which



is, however, readily overlooked by inexperienced observers; it generally has a deeper tint than the neighboring parts.

The hyaloid canal, with its obliterated artery, are only very exceptionally seen. I have twice observed a vestige of them in the form of a fine thread stretching forward from the optic-nerve-entrance towards the lens.—[*London Medical Review*.

[*To be continued.*]

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*New York Medical and Surgical Society—Discussion on Diphtheria.*

Dr. C. M. Allin, of Flushing, related the histories of some cases of diphtheria which had lately come under his notice. About four weeks before he saw the first case, a child about six years of age was seized with an attack of well marked suppurative tonsilitis, which seemed to run its ordinary course for about a week or ten days, during which time an abscess formed and discharged; the swelling of the parts then began to subside. Two or three days subsequent to this, the child was suddenly seized with croupy symptoms. On examining the throat it was found that the swelling of the tonsils had returned, and at the location of the opening of the abscess there was discovered a large patch of false membrane, which covered the uvula, and extended down into the pharynx as far as could be seen. The child was very much prostrated, nearly pulseless, and was evidently rapidly sinking. The usual application of nitrate of silver to the parts, and the administration of stimulants was resorted to, but in vain, for the child died exhausted within twelve hours from the appearance of the first bad symptoms.

Three days after this, a younger child, in the same family, was attacked with sore throat, which presented the ordinary appearance of ulceration. In this case, however, none of the symptoms of prostration were present, neither did any diphtheritic membrane show itself, and the child recovered. Nothing more was seen of the disease for the next fortnight, when Dr. Bloodgood, the partner of Dr. Allin, was called to another case. He found the child very much in the condition of the first case, and learned that she had first complained of sore throat to her mother three or four days before. Various domestic remedies were resorted to, but the patient growing rapidly worse, Dr. B. was called in. On examination, the roof of the mouth, the throat, uvula, and all below the pharynx, as far as could be seen, was covered with a thick darkish yellow membrane. The countenance was very pale, and wore a very haggard expression; the pulse was very rapid and feeble, and there existed a marked croupy cough. Nothing, however, could save the child—it died the same evening. Early in the morning following, a child of the same family complained of sore throat. The tonsils and surrounding

parts were congested; but nothing more was visible. A gargle of chlorate of potash was prescribed, and directions were left to feed up the patient well. On seeing the case again in the evening, he found an ulcerated spot about the size of a split pea on the left tonsil, to which he applied nitrate of silver. Chlorate of potash was then ordered internally, in addition to its use as a gargle. The next morning Dr. B. found that the ulcer referred to was larger than before, and there was also another of the same character on the tonsil of the opposite side. He applied the nitrate of silver again, and at the suggestion of Dr. Allin, hydrochloric acid was added to the mixture of chlorate of potash, in the proportion of a drachm of the former to two of the latter, in eight ounces of water: of this a teaspoonful was prescribed every two hours. I saw the case with him, continued Dr. A., a day or two after, and found that membrane had formed upon the surfaces of the ulcers referred to. The whole roof of the mouth was congested, but the membrane was confined to the uvula and parts immediately surrounding. The strength of the patient did not seem to be much impaired, the pulse being only 110, and we had strong hopes that the progress of the disease might be arrested. The next day, however, the child fell off in strength, and we discontinued the potash mixture, ordering instead, the tincture of the sesquichloride of iron, to be used both as an internal remedy and a local application. At the time referred to, a portion of the membrane became detached, and, on being removed by the forceps, was found to be very tough in consistence, very like the slough of a nitric acid issue in general appearance. Yesterday morning (Friday) I called again to find the patient suffering from a croupy cough, while the surface of the throat covered by the membrane, had increased very much in extent. The child became more and more prostrated, and died at six o'clock the same evening—ten hours after the first symptoms of laryngeal trouble showed themselves. In neither of the two cases reported were post mortem examinations made.

Dr. Allin stated that Dr. Vedder (of Flushing) had also met with this disease. One case occurred in a child eighteen months old, who sank rapidly and died in consequence of the appearance of croupy symptoms following an ordinary sore throat. The treatment consisted in the internal administration of the sesquichloride of iron and the local application of hydrochloric acid. A post mortem examination was made. The tongue, pharynx, and lining membrane of the œsophagus, down as far as the cardiac orifice of the stomach, was found covered with the characteristic membrane. It also formed a lining for the larynx and trachea, extending as far into the lungs as the minuter divisions of the bronchial tubes. The lungs, aside from this, were only moderately congested. He stated that Dr. Vedder was treating, at that time, for diphtheria, a young girl sixteen years of age, who was lying at the point of death. A blister was applied in one of Dr. Allin's cases, but the abraded surface was not covered with a diphtheritic membrane. In all the cases that recovered the convalescence was very much protracted.

Dr. A. C. Post referred to a case of this disease in a young woman, twenty-one years of age, which proved fatal in the course of the night in which she was attacked. Her child died a short time previous of the same disease. In both, the membrane made its first appearance upon the tonsils.

Dr. A. Clark had seen, since a year ago last autumn, somewhere between sixteen and twenty cases of diphtheria. The oldest case that he had seen prove fatal, was that of a lady, twenty-two years of age. The oldest person that he had seen affected with the disease was not over thirty-six years of age. But a small number of post mortem examinations were made, but they were however sufficient to show a very great variety in the extent of the newly formed membrane. In some instances it extended throughout the pharynx, lining the larynx and trachea, and going down as far as the bronchial tubes could be conveniently opened, besides extending into the posterior nares. In one case this membrane could be seen from the front plunging up the nostrils. In other cases the larynx was not at all affected, the diseased action being confined to the pharynx and œsophagus. On the other hand, he had found the deposit confined to the larynx only. In some of the cases where no post mortem examinations had been made, immense tubes or bands of thick leathery matter had been expectorated, but without being attended with any relief in the laryngeal symptoms, except in two instances, where recovery took place. In all the cases, so far as he had the means of knowing, the membrane was visible upon some portion of the fauces, most commonly upon one of the tonsils, before any symptoms of dyspnoea showed themselves, and before there were evidences of the formation of the deposit in any other part. In nearly one-half the cases in which fatal results had occurred, such a state of things took place without dyspnoea, but with a set of symptoms such as he could hardly compare with those of any other disease. There was muscular force enough, yet there was a very marked feebleness of the pulse, which was attended with blueness of the nails and lips. He thought that it was a condition very apt to deceive a physician who saw such a case for the first time, and lead him to suppose that recovery might take place. In relation to the mode of invasion of this disease, Dr. C. stated that it had been exceedingly variable. I should think, continued he, that in the cases that I have seen, the severity of the symptoms of invasion have had some relation to the age of the patient, being more severe in those that are older. I do not, however, wish to make this a statement: it only is the result of a limited observation. In some children the ordinary symptoms of sore throat first present themselves, the membrane forms slowly, but the issue in such cases is hardly less fatal than that of others. In other instances the invasion is very brisk, the patient has two or three chills in the course of the day, while in the more insidious forms referred to the duration is a fortnight including the early illness. In those cases that recovered the convalescence was very much protracted. In



answer to a question from Dr. Post, he stated that he recollected one case that lasted but three and a half days.

Dr. McCready next cited the following case: A patient of his, a child, was first seized with the ordinary symptoms of sore throat. In the course of a day or two membrane showed itself upon the tonsils, but soon disappeared entirely, and everything pointed towards a recovery. After the lapse of about a week, however, membrane appeared in the nostrils, when the child became suddenly collapsed and died within twenty-four hours after. In that case it seemed that the disease disappeared from the tonsils and afterwards selected the nostrils as its seat.

Dr. Clark stated that in one case he saw with Dr. Crane, death took place in a somewhat similar way. All the membranes had been discharged, and the boy was regarded as fairly convalescent. I visited the case one morning about ten days after the severe symptoms, and thought him doing well. He was able to sit up a considerable portion of the day; his strength was increasing, and his friends were encouraged. About two o'clock of the same day, Dr. Crane was sent for, and found the child pale and sinking; the pulse at times would be scarcely perceptible, then it would become more full, but the exhaustion was so extreme that the slightest movement, even raising the head, would bring on a fainting fit. I arrived in time to see the child breathe his last. His appearance at the time I saw him was that of a person dying from internal hemorrhage, and the history of the fatal attack tended to strengthen the suspicion. No autopsy could be obtained. In regard to treatment, Dr. Clark stated that when he first met the disease last autumn, the treatment was very varied and unsettled, and he was not satisfied with any method then in use. Seeing a statement that the Dublin and Edinburg physicians were disposed to rely upon the muriated tincture of iron, he began to advise that remedy. He had since fallen into the practice, now generally adopted here, viz: sustaining the patient by quinia, given freely, the muriated tincture of iron, wine, &c., and interfering but little with the membrane. He did not favor the use of mercurials on account of their constitutional effect. Bretonneau used them at first, but was forced to discontinue them for this reason. In reply to the question, whether he regarded diphtheria a different disease from the croup, Dr. Clark said that he did; one difference was the frequent occurrence of an abundant exudation in the substance and upon the surface of the membrane, and then the appearance of the membrane itself, the border of the patch being surrounded by an intensely red margin, giving it the appearance of a slough about to separate.

Dr. Buck said he had seen patients die even after the separation of the membrane. In reference to treatment, he stated that Dr. Lindsley's great reliance in these cases was mercurial fumigations. He had seen recoveries under its use, and in one, particularly, it was continued day and night for eight days. The disease seemed to be kept in check during its use, but any cessation in its applica-

tion was followed by an aggravation of the most unpleasant symptoms, and it was not until the eighth day that the relief obtained was permanent. The convalescence was gradual and protracted. In this case the exudation on the tonsils was recognized at the first visit, and within twenty-four hours after hoarseness and laryngeal symptoms appeared. He was so favorably impressed with the value of his remedy that he advises its thorough trial. The fumigation was effected by enveloping the child's head with a blanket, and then heating an iron body to a red heat, throwing upon it cinabar, when the whole was passed under the blanket. When the child was very small it was necessary that the attendant should also be subjected to the fumigation.

Dr. McCready said that he had seen a case with Drs. Parker and Van Buren, which was successfully treated by the method of fumigation.

Dr. Jas. R. Wood remarked that Dr. Lindsley had used the cinabar in fumigations in croup for many years. He had himself tested its efficacy, and could report favorably. Diphtheria, he continued, is a different disease from inflammatory croup, being attended with more nervous prostrations, and the patient running rapidly into a typhoid condition. It is essentially a blood disease. Again, they differ in the location of the exudation; in true croup it does not always commence upon the fauces and extend unto the larynx; but in diphtheria he had always first discovered the exudation in the fauces or upon the tonsils, and the laryngeal symptoms supervened soon after.

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*Cephalic Version.* By C. A. LOGAN, M.D., of Leavenworth City, Kansas. Read before the Leavenworth Medical and Surgical Association.

The obstetrical manipulation, improperly termed Cephalic Version, has of late years, as well in America as elsewhere, been revived and urged upon the attention of the profession, as being an operation far more easily executed, and attended with results of more favorable character in transverse presentations, especially those of the shoulder, than its *antipode*, podalic version. Cases have been reported in glowing terms, setting forth the satisfactory issue of the operation, and recommending it as a substitute for turning by the feet, in all cases where the shoulder or back may present at the superior strait.

The practice is not a new one, as the ancients believed that all labors to be natural, must present with the head, and the most strenuous efforts were made to correct any deviation from it. When Ambrose Pare and his pupil, Guilleman, however, demonstrated the practicability and comparative safety of bringing down the feet, the operation above alluded to fell into disuse and was

not revived again, until practiced by Flamant, the Professor at Strasburgh.

After him, came many German and French writers eulogizing it in the highest terms, and presenting cases and statistics in support of the practice. Almost the entire British and American profession, however, were united in its condemnation, and that too with a fervor and warmth that proves, I fear, too conclusively, that their denunciation was premature and unbacked with an amount of experience sufficient to warrant it.

Our own countryman, the celebrated Dr. Dewees, in speaking of presentations of the arm and shoulder, disposes of the subject after the following fashion :

“The indication in these presentations is to bring down the feet and deliver. It has, however, been suggested that we may attempt the restoration of the head to the cavity of the superior strait by removing the shoulder from it ; I believe this to be altogether theory—I do not even advise the attempt ; for independently of its difficulty, I am persuaded that it would be attended with more pain and risk to the patient, and injury to the child than a well conducted turning.”

From the language used, we are justified in the inference, that the great author never attempted the operation himself, but acting upon his persuadings of what must be the result, was content to stifle all investigation of its actual merits, or the particular cases in which it was applicable, by his precept, which with many, in this country at least, amounts to a positive obstetrical law.

Nor does Prof. Meigs differ very materially from this wholesale injunction of Dr. Dewees if the following quotation is any indication of his views :

“It may be, that those old practitioners of the days of Queen Elizabeth may have sometimes succeeded by pushing up the presenting shoulder, in getting the head at least to come to the strait again, but such an event *in any case*, appears to me most improbable.”

Notwithstanding all this, however, the American journals for several years past, have been interspersed with reports of cases in which Cephalic Version has been performed with success, and with a greatly supposed advantage over Podalic Version. The most elaborate paper upon this subject, that I now remember of, was presented to the Ohio State Medical Society by Prof. M. B. Wright, of Cincinnati, in which the whole matter was reviewed, and I think, some five cases detailed as occurring in that gentleman's private practice, in which the lives of all the mothers were saved, and probably those of a majority of the children. This result was certainly very satisfactory, as statistics have shown that rather less than the life of one child out of every three, is sacrificed in the operation of turning by the feet.

That the Cephalic Version is less inimical to the life of the child is maintained by the English authority ; Dr. Ramsbotham, who says that “of the three modes of treatment, (cephalic version,



podalic version and bringing down the breech,) that of raising the shoulder and bringing down the head, would be the safest to the child, because there then would be but little chance of pressure on the funis umbilicalis." He goes on to state his own convictions, however, that of the three modes it is the most dangerous to the mother and the most difficult for the operator.

Velpéau, again, advises as follows: "Cephalic Version may be attempted—1st, in a well-formed pelvis where no other accident has happened except a vicious position of the fœtus, and the head is found in an inclined position in the vicinity of the strait; 2d, in presentations of the shoulder, back or anterior part of the thorax, provided the arm is not prolapsed and the uterus not too much contracted; lastly, it seems proper to try it whenever the feet are further removed from the strait than the head is, and where it is probable that the labor would terminate spontaneously if the head were at the strait."

Numberless authorities on both sides, might be cited, each party contending for the exclusive utility of each operation, but as in all such instances, I am of the opinion that the truth will be found to lie between the extremes.

The celebrated Cazeaux, is very happy in his expression of this fact, in the following language:

"At the present day it would be improper to embrace either opinion exclusively, for some cases are better suited to the Cephalic Version, while there are others, on the contrary, where the podalic one is alone practicable; consequently both operations should be retained in practice, leaving the judgment of the accoucheur to determine the cases where the one or the other ought to be preferred."

Were we all as anxious in our endeavors to discover correct principles, as this truly great man, we should find fewer men engaged in asserting sweeping propositions and pertinaciously adhering to them, because they were the authors of them or had been engaged in their defense.

I think there can be little doubt of the fact, that in certain cases, contrary to the opinion of Professor Meigs, that the "event" (cephalic version) is not only probable, but is quite easy of accomplishment and affords a better chance for the life of the child, and with as little danger to the mother, as podalic version.

These cases I conceive to be those in which the membranes are intact or but just ruptured. While the fœtus is swimming in the liq. amnii, it is protected from the direct contractions of the uterus, and necessarily possesses a great amount of mobility, therefore it can be no *very* difficult matter to shift the position of the child by making pressure upon any particular part.

Velpéau, indeed, and I believe Flamant, profess to be able to accomplish this through the abdominal parietes simply, a procedure, which in this age of practical demonstration, would receive more credence from those witnessing it, than from those reading it. However this may be, I am convinced that it is practicable to sub-

stitute the head for the shoulder, under the conditions above named, as I myself succeeded in doing in a case which I shall now relate.

I was called on the night of April 19, to see Mrs. H.—, in labor with her second child. I ascertained that she had been having pain for six hours. Her first labor had been a natural one, and terminated in eight hours. She was a robust, healthy woman with a capacious pelvis. The character of the pains demanding it, I proceeded to make a vaginal examination. The first thing which struck me, was the rather peculiar shape of the membranes, not being strictly of a conical form as has been described, but still elongated as it were, and not of the rounded or oval shape which attends a head.

The os was dilated to its fullest extent, but I found it impossible to reach the presenting part with any satisfaction. The pain at this time leaving her, I proceeded to make an examination through the abdominal walls, according to the directions of M. Chailly. By a very careful percussion, I found that the long diameter of the uterus presented itself in a direction transverse to the mother's body, and my suspicions being aroused as to the true nature of the case, I fancied I could feel the hard, rounded head of the foetus in the left iliac fossa. Certain it is, that the pulsations of the foetal heart, were heard with the most distinctness in the right iliac fossa.

Being strongly impressed with the idea that I had a transverse presentation to deal with, and that most probably a true shoulder case, I determined, should my doubts be realized, to try the efficacy of Cephalic Version, without, however, jeopardizing the conditions favorable for a turning by the feet, as experience in a previous case, demonstrated to me the reliability of the latter.

It being inconvenient to procure an assistant, I relied upon the aid of an experienced black nurse.

A second examination was then thoroughly instituted, and I determined that the case was a shoulder beyond a doubt, and that the head was in the left iliac fossa; but whether it was the right or left shoulder, I could not then settle in my mind owing to the entirety of the membranes, which I was very careful not to rupture.

As the woman would lie in no other position than on her back, having been previously confined so, I placed her cross-wise in bed, near its edge. The hand of the nurse was then placed on the abdomen over the region of the pelvic extremity, and directions given to make pressure upward and inward toward the median line. My left hand was applied over the child's head with the intention of pushing it toward the strait at the proper time. The right was gently introduced and three fingers placed upon the shoulder, and firm pressure made in the absence of a pain, obliquely from left to right and from below upward. After some little time thus spent, being obliged to desist during a pain that ensued, I had the satisfaction of feeling the shoulder recede before my pressure, and in a hurried effort to grasp the head, as might have been

expected, I broke the membranes. A violent pain immediately came on, but I succeeded in fixing the head in the superior strait in the second position of Churchill, (the *right* shoulder had presented) and retaining it there until it was forced down into the excavation.

The child was born in forty minutes after this procedure, and although small, was very vigorous. This operation, although crowned with a success that surprised me, I am not disposed to go off into ecstasies over, and declare that it is *the superior* of all others and that it *alone* should be practiced. On the contrary, I am satisfied that, had the membranes been ruptured for any length of time, so as to permit the uterus to contract firmly upon the body of the child, and wedge it down into the cavity, that no amount of force that could be applied consistent with the integrity of the soft parts of the mother, could have dislodged it.

In such a case turning by the feet would have procured a safe termination to the mother, if properly and adroitly performed, although as in the other case, the longer the waters have been drawn off, the more difficult becomes the operation. That there is danger in this last operation to the child, (as one to three according to English statistics, and as one to seven according to French), none will deny; yet evidently, the foetal mortality is increased by a too hasty delivery of the body, which, causing the head to depart from its flexed position on the chest, throws the occipito-mental diameter of the child's head in relation to the oblique diameter of the superior strait, producing a vexatious delay in delivery; indeed, requiring manual interference to again bring the diameters into relation, during all of which time the cord is being compressed.

On the other hand, it is fair to admit that in some cases of Cephalic Version, we will have a prolapse of the cord, during the recession of the shoulder, and this will increase the mortality in this operation. It appears, then, that in certain cases and at particular times, the one operation may be advantageously used, and in others, the other. Therefore I take it, that no distinction can be drawn between them, so far as superior merit is concerned, in every case.

It is time that we learn to view the cases that may fall under our care, in a rational way, and take advantage of the circumstances in each particular case to apply the proper remedy. The application of certain modes of treatment to certain states, without looking behind the curtain to inquire what may be the precise condition present, is like treating disease by a name, and is vastly out of date. I have learned to regard all men who vaunt forth a remedy, manual or other, as a specific, suited to all cases and conditions, either as enthusiasts, or as dishonest in their assumptions, and unsafe to heed in either event.

It is only by a careful observation of facts, that rational deductions can be drawn, and he who presents the greatest number of these to the world, contributes most largely to the foundation of



the temple of true science, which all of us are endeavoring to rear, some indeed, so clumsily and unwork-manlike that the efforts of many are constantly required to undo the evil of others.—*Kansas City Medical and Surgical Review.*

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### *Introduction of the Tea Plant into the United States.*

A few years ago the United States Government was led to take measures for the introduction of the tea plant into the confederation, with a view to establishing, if possible, the preparation of tea in some of the States. The success that had attended Mr. Fortune's operation for the East India Company, having induced them to consult that gentleman, it was finally arranged that he should again proceed to the Celestial Empire, for the purpose of obtaining as abundant a supply of plants for the west as he had secured for the east. His mission has been attended with the most complete success. A minute of the United States Patent Office now before us, states that he was dispatched in March, 1858, that he had obtained seeds enough to plant one hundred acres, a large portion of which had arrived by the 20th June, 1859, and was flourishing in a propagating house, especially constructed at Washington for their reception. Applications for plants were even then made in such numbers, that it had become necessary to refer to Congress for instructions as to their disposal.

Mr. Fortune returned to England some time ago, and has favored us with the following interesting report upon the final result of his expedition :

"It will be seen by the accompanying papers that the results of my expedition to China, for the Government of the United States, have been very satisfactory. In little more than one year about fifty thousand tea plants, and many other vegetable productions useful in the arts, or of an ornamental character,\* have been introduced to America from the tea countries of China.

"This success was mainly owing to experience acquired during former visits to these countries. Arriving in China in the month of May, I spent the first few months in visiting numerous tea farms in different parts of the country, where I made arrangements with the natives for large supplies of seeds as soon as they ripened in the autumn. In October and November I repeated my visit to the same districts, and everywhere found supplies of seeds awaiting me. In former transactions with these tea growers, I had always treated them kindly and liberally, and I now found the advantage that resulted from such treatment. Seeds had been saved for me in all directions ; I had only to pick them up and proceed onwards,

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\* For example: the Camphor and Tallow trees, Chusan Palm, green dye plant (*Rhamnus*), manure plants (*Trifolium* and *Coronilla*), Wax-insect tree (*Fraxinus chinensis*), Yang-mae (*Myrica* sp.), southern fruits, such as the Lee-chee, Longan, Wampee, &c., &c.

and was thus enabled to get through a large amount of work in a short space of time. In December I reached the seaport of Shanghai, with the whole of my collections in excellent condition.

"Tea seeds will not retain their vitality long if kept out of the soil. In order to guard against all risk, a large number of Ward's cases had been previously prepared and filled with earth, and to these the seeds were immediately transferred. The first shipment was made in December, a few days after my arrival in Shanghai. Knowing that the vessels would probably arrive in America in the middle or end of March, I thought it likely the seeds would remain in the earth without vegetating during the voyage. Instead, therefore, of sowing the seeds near the surface in the usual manner, I mixed up large quantities with soil, and filled the case up with the mixture of earth and seeds. By this simple plan many thousands of seeds were carried to their destination, and when they arrived there were as sound as if they had been all the winter on a Chinese seed-bed. Of course it was necessary to unpack them immediately on arrival, and sow them thinly in other quarters. In the other cases which were shipped later, this mode of packing would not have been safe. The seeds were therefore sown thickly and covered with earth in the usual manner, and in this state might vegetate on the voyage without any risk whatever. In the one case the object was to get the seeds quickly to their destination without vegetating, for had this taken place the experiment would have been a failure; in the other they were placed in circumstances favorable for vegetation, and the only change likely to occur would be this, that in China they were only seeds, while towards the end of the voyage or at its termination they would have changed into healthy young plants.

"The watering, closing the cases, shipping, and last, but not least, securing the good-will of captain and officers, were all important operations."

Not only has the tea plant been thus introduced to the Eastern States, but it has found its way also to the Western; and our friends on both the Atlantic and Pacific sides are with their usual energy setting about growing it.

But there still remains the question whether they can turn it to profitable account. That their climate will be found to suit in some of the vast regions of the West there can be no reasonable doubt. But merely growing tea plants will not make commercial tea. The difficulty lies in the preparation of it, an operation which, as conducted in China, demands an enormous quantity of labor—the article of which beyond all others the United States have the least to spare. But is it really necessary to prepare tea Chinese fashion?—to chop it up into little balls and twist it into all sorts of queer shapes with all sorts of names, in order to give it its dietetical value? Surely not. We have ourselves found out that the painted article called green tea is not very wholesome, and by no means the better for the paint; and we quite anticipate that our

United States friends will have even already projected some sort of machine that will produce good marketable tea without the assistance of human hands. This indeed, we know, is the opinion of Mr. Fortune himself.—*London Pharm. Journ. from Gardeners' Chronicle.*

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*New Application of Chloroform in Neuralgia and in certain Rheumatic Complaints.*

[At a meeting of the Medico-Chirurgical Society of Edinburgh, Mr. Little, F.R.C.S.E., of Singapore, made the following communication, which we reprint from the *Edinburgh Medical Journal* for April, 1860.—Eds. *Boston Med. and Surg. Jour.*]

During my residence at Singapore, East Indies, I was at one time in the habit of using liquor ammoniæ to produce an immediate blister, when instantaneous counter-irritation was thought necessary in certain cerebral affections, &c.—a piece of lint soaked in ammonia being applied to the part, and covered with oil-silk, when in a few minutes so much irritation was produced as to raise a blister. In administering chloroform to my patients, I noticed that their lips were often partially blistered by it; and recollecting the mode of using the ammonia, I thought of trying the chloroform in the same way, but found that neither oil-silk nor gutta percha tissue would answer. I then used a watch-glass to cover the lint soaked in it, and with the best effect.

The manner of application is to take a piece of lint, a little less in size than the watch-glass to be used (which need not be more than two inches in diameter,) to put it on the hollow side of the glass, to pour on it a few drops of chloroform sufficient to saturate it, and then to apply it at once to the part affected, keeping the edges of the glass closely applied to the skin by covering it with the hand, for the purpose of keeping it in position, as well as of assisting the evaporation of the chloroform. This may be done from five to ten minutes, according to the amount of irritation wished for.

The patient during this time will complain of the gradual increase of a burning sensation (not so severe as that produced by a mustard sinapism,) which reaches its height in five minutes, and then abates, but does not entirely disappear for more than ten minutes.

To ensure the full operation of the remedy, it is necessary that the watch-glass be rather concave, that it be closely applied to the skin, and that the hand applied over it be sensibly warm. The immediate effect of the application is to remove all local pain in neuralgia, and relieve that of rheumatism.

Its effects on the skin are at first a reddening of the cutis, which in some cases is followed by desquamation of the cuticle; but this depends on the part to which it is applied, and also upon the sus-



ceptibility of the individual. In some cases, if the application is prolonged, a dark brown stain remains even for a week or ten days, the same effect as sometimes follows the use of a mustard sinapism.

In Singapore I have used chloroform after this fashion in various neuralgias of the face, in inflammations of the eye and ear, in one case of angina pectoris, in several cases of neuralgia affecting the abdominal parietes, in lumbago, dysmenorrhœa, and in pain attending congestion of the ovary, &c.

Personally, I can testify to its great efficacy in two severe attacks of rheumatic inflammation of the eyes, in which the pain came on periodically about 3 A. M., with such severity that I thought the loss of sight itself would be preferable to its continuance. All other remedies, such as blisters, leeches, opium externally and internally, belladonna, &c., were of no avail in soothing the pain; water, almost boiling, applied by a sponge, giving only a little relief. I then thought of this use of chloroform, remembering how much it had benefitted my patients in other similar affections. The first night, the application of it to the temple relieved the pain in ten minutes; on its return the next night, the application again relieved it; and four times only was it required to remove completely the local pain; allowing, in the meantime, constitutional remedies to produce their effect. Since my return to this country, I have recommended this remedy on several occasions to persons suffering from neuralgia of the face and head, and always with the same good effects as in India; and the other evening one of my domestics was quickly and effectually relieved by it of a painful spasmodic contraction of the platysma myoides muscle, which prevented her raising her head from the chest. The chloroform was applied as directed, with immediate benefit, and next morning she was quite well, though in previous attacks several days elapsed before relief was obtained. I have mentioned this method to several medical men of this city, who have found it of great benefit; and that it may be more extensively known, is my reason for now bringing it before the profession.

Dr. Keiller mentioned that this plan had been tried with success in his wards.

Dr. Wright had used chloroform for similar purposes, by pouring it into a bottle containing blotting-paper, and applying it over the affected painful part. He has found it sometimes produce vesication, and leave a mark on the skin; but it had been effectual in removing pain.

[Mr. Little has received the following letter from Dr. Sclanders, House Physician to Dr. Keiller in the Royal Infirmary:

ROYAL INFIRMARY, March 14, 1860.

MY DEAR SIR:—I have much pleasure in giving you the result of my experience in regard to the external application of chloroform in the way proposed by you. Soon after you made me aware of it, I saw a friend of mine, who suffered frequently from neuralgia of the left forehead. I proposed the remedy to him, and with the

effect of immediately removing the pain. Owing to my having kept it too long applied, vesication ensued. Since then he has had no return.

I have since used it in several cases of neuralgia of the ovary and pleurodynia, as also in two cases of rheumatic pains in the joints, with marked benefit.

I am yours truly,

DR. LITTLE.]

ALEX. SCLANDERS.

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*On the "Non-Cosmopolitism of the Human Races."* By BOUDIN.

Extracted and translated from the "*Journal de la Physiologie.*" By Prof. WM. L. BISCHOFF, M.D.

Is man cosmopolitan, as has always been believed; is he confined in order to continue and propagate his race to certain countries more or less similar to his origin? In other words can man be acclimated on all points of this globe, or is his acclimation circumscribed, limited, dependent upon certain conditions of climate, locality, medium?

This problem is certainly one of the most important in anthropological science; for on its solution depend the great questions of colonization and the supply of imported labor to those regions that cannot otherwise supply their wants. It touches thus upon measures of social economy, particularly important to this section of the country.

It is astonishing to see how slightly this important question of acclimation has been treated heretofore. "A firm resolution," says Malte-Brun, "not to be conquered by disease is according to all physicians, one of the most effectual means to resist the influence of a new climate." Our body waits for orders only from intelligence. (Geogr. Univ. 5 ed. p. 560.) Thus according to this celebrated geographer man only has to will it, to cause the organism to accommodate itself to all the difficulties of a new medium, or a new climate.

On the contrary, Boerhaave, ignorant of the simplest facts of physiology and meteorology holds: "that no animal with lungs, can live in an atmosphere the temperature of which is equal to that of his blood." From this would result that man would infallibly perish under a temperature of 38° to 39° Centigrade, (100—102 degs. F.) Cassini thought that no animal could live in a place elevated more than 4767 metres (about as many yards) above the level of the sea, while man actually inhabits places having an elevation of about 4800 metres.

The truth is, that man, in his migrations upon the globe, is neither as ductile nor fragile as theorists have made him out to be.

To the experimental method, to observation only, belongs the right to define the limits of his faculty of acclimation.

In favor of the cosmopolitism of the human races, the acclimation of a certain number of plants and animals was adduced. But first it is not admissible to deduce the cosmopolitism of man from that of plants and animals, and in the second place, the facility of acclimation of plants and animals has been singularly exaggerated.

To be acclimated, a plant must be able to reproduce itself without the assistance of man. Now, we all know that in Europe the cereals cannot reproduce themselves if left to themselves, but disappear. In Provence the olive trees are killed by the frost nearly every twenty years, and so likewise the orange trees in Liguira. The potato disease has shown, that this precious vegetable, that was believed to be won irrevocably, may be lost to us one day.

In regard to animals, we encounter the same difficulties of acclimation. Of the one hundred and forty thousand species that constitute, according to the most recent estimation,\* the whole animal kingdom, only forty have come under the power of man; and of these only three species from America, have been acclimated in Europe, viz: the turkey, Muscovy duck and the Guinea pig.

Two thousand years ago Vitruvius said: "*Quæ a frigidis regionibus corpora traducuntur in calidas non possunt durare sed dissolvuntur; quæ autem ex calidis locis sub septentrionum regiones frigidas, non modo non laborant immutatione loci valetudinibus, sed etiam confirmantur.*"

As far as it concerns the European races, modern facts tend to confirm this opinion of Vitruvius. Indeed up to this day, the European has not succeeded in implanting his race in the north of Africa, much less in the tropical regions. Never could the Mamelukes, in Egypt, have recruited themselves otherwise than by the importation of Circassian slaves. Their children succumb. Mehemet Ali had ninety-four children, of whom only three survived him. In Algeria, not a trace is found of the descendants of the Romans. The infants of European parents born in Africa, says Vital,† chief physician of the Hospital of Constantine, these twenty-three years, are swept away without pity. Children born from negro parents fare even worse.

The author now brings forward an array of facts, taken from the most reliable statistical records, and proves conclusively that certain races do not thrive in certain places, as can easily be shown by the excess of deaths over births; and that the same races transferred to their original localities or to others, commence to thrive.

Very startling facts are deduced from these statistical researches. Thus while they prove the almost entire incompatibility of the European races with the tropical countries of the Northern hemisphere, they show the contrary in the majority of the colonies of

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\* J. Geofray Saint-Hilaire, *Hist. nat. gen.* Paris, 1860. p. 35.

† *Gazette Medicale*, 6th Nov., 1852: Paris.



the Southern hemisphere. Thus the rate of mortality is much less in New Zealand or Australia, (though nearer to the equator than Algeria), than that of England. The same may be said about the former Spanish colonies in South America, Montevideo, Buenos Ayres, and the Dutch colonies at the Cape of Good Hope and Port Natal. In Daity, though situated under the thermal equator, the mortality among the French garrison, (observed during eight years) did not exceed one per cent., while in France it reaches in the average about two per cent.

The effect of migration from south to north is not beneficial to all races; at least not to the negro race. Thus the negro race can not maintain itself in Algeria nor even in Egypt, except by incessant immigrations.

But not only the migration from south to north proves prejudicial to the negro race, but in almost all instances also, the displacement eastward or westward. One might be led to the belief that the negroes, transported to the Antilles, would find their conditions excellent for the propagation of their race. But there, always the deaths have exceeded the births. The most remarkable fact revealed by the statistical tables, says our author, is that while in the West Indian Islands the negro race is gradually dying out, in the neighboring continent, (the Southern States of the North American Union) the race is thriving exceedingly. In 1810, (two years after the discontinuance of the slave trade), the number of slaves amounted to 1,190,930. In 1850 this number was raised to 3,178,055.

The conclusions which the author draws from the facts he has so diligently collected may be summed up to be:

1. It is not at all proven that the different human races are cosmopolitan as was believed heretofore, but a great number of facts rather tend to establish the contrary.

2. The faculty of acclimation out of the place of origin, varies according to race, and this variation manifests itself by corresponding differences in the proportion of cases of sickness and deaths occurring.

3. It is not proven that the European as an *agriculturist* can perpetuate his race in the tropical regions of the northern hemisphere.

4. The European can more easily acclimate himself in a great number of the warm and even tropical regions of the southern hemisphere.

5. The European can stand better migrations into cold regions than into warm ones.

6. The negro race cannot be acclimated in the south of Europe nor even the north of Africa.

7. It is proven that the negro race cannot perpetuate itself either in the French or English Antilles, or in Bourbon or in Mauritius or in Ceylon, though all these islands are under the tropics.

8. *The negro race seems to acclimate itself in the Southern States of America.*

9. *In the Northern States of the Union the negro race is perishing and at the same time furnishing an enormous contingent for the lunatic asylums.*

10. *The Jewish race acclimates and perpetuates itself in all countries.*

11. *The Jewish race follows statistical laws of births, diseases, and deaths entirely different from those of the populations among which they live.*

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## Bibliographical Notices and Reviews.

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*The Diseases of the Ear: their Nature, Diagnosis, and Treatment.*  
By JOSEPH TOYNBEE, F.R.S., &c., &c., &c. With one hundred engravings on wood. Philadelphia: Blanchard & Lea, 1860.

Dr. Toynbee is Aural Surgeon to St. Mary's Hospital, the Asylum for Idiots, and the Asylum for the Deaf and Dumb, and a Lecturer on Aural Surgery. In addition to his long having held these posts he has, for about twenty years, been a most industrious, and even a prolific contributor to the periodical literature of the subject. These things are mentioned as indicating the devotion of the author to the subject of which he treats.

In his preface he states that "it has been his aim to produce a practical treatise on the Diseases of the Ear, having for its foundation the anatomy, physiology, and pathology of the organ."

The general arrangement of the topics comprising the work seems to have been largely suggested by the leading anatomical elements of the organ of hearing. The subjects comprising it are as follows:

Introduction; The External Ear; The External Meatus; The Membrana Tympani; The Eustachian Tube; The Cavity of the Tympanum; The Mastoid Cells; The diseases of the nervous apparatus of the ear; Malignant diseases of the ear; On the Deaf and Dumb; Ear trumpets and their use.

The volume does not profess to give a complete description of

the structure and functions of the Ear : on the contrary, anatomy and physiology have only been entered upon when requisite for the elucidation of the pathology or treatment.

A most interesting feature consists of abundant illustrative cases. As specimens of the author's style, and of these illustrative cases, as well as on account of its great practical interest, we give the following on the subject of the rupture of the *Membrana Tympani* :

“ *Pathological Observations.*—There are several modes in which the *membrana tympani* may be ruptured. The most common is an unexpected blow on the ear. It may also be ruptured by having a foreign body forced through it ; by very loud sounds ; by a fall ; by violently blowing the nose ; or by vomiting. Mr. Wilde relates a case in which the *membrana tympani* was ruptured by a gentleman, while bathing, thrusting his little finger into the meatus to dislodge some water.

“ In cases of simple rupture, as from an unexpected blow on the ear, the margins of the orifice are usually in contact, scarcely any hemorrhage occurs, fibrin is effused, and the rent is speedily repaired. Where, however, the margins of the membrane are no longer in contact, and where the membrane has been much strained, very great irritation may ensue, requiring active anti-inflammatory measures. The most serious cases arise from the injury inflicted by the introduction of a foreign body, since the dermoid layer usually participates in the disease.

“ In cases of simple rupture of the *membrana tympani* where inflammatory symptoms are still present, it is not desirable to do more than introduce a portion of cotton-wool into the meatus, to prevent loud sounds from acting injuriously upon the drum. Where the inflammation is great, leeches must be applied below the ear, and to the margin of the orifice of the meatus, and evaporating lotions used to the margin of the meatus itself. Should these remedies be unsuccessful, counter-irritation must be applied over the mastoid process.

“ *Case I. Membrana tympani ruptured by an unexpected box on the ear.*—Master G., aged 14, was brought to me on June 2, 1852, on account of a peculiar sensation in the left ear whenever he blew his nose.

“ *History.*—Five days ago, as he was sitting still, his tutor came quietly behind him, and suddenly and unexpectedly gave him a gentle box on the left ear, which produced instantaneous pain deep



in that organ. On using his pocket-handkerchief afterwards, he experienced a tingling and clicking in the ear, in which he has since also had pain at times, and from which occasionally a drop or two of blood have escaped. Inspection showed a small orifice at the lower part of the membrana tympani, about a line in diameter, with white borders. Air passed through on holding the nose and blowing gently. The watch was heard at the distance of a foot. As there was some slight pain, a leech was ordered to be applied below the ear every second night. This was continued for ten days, at the end of which time the pain had disappeared, the orifice had closed, and the hearing power had returned.

“*Case II. Rupture of the membrana tympani by a blow on the ear with a bolster.*—Master K., aged 14, was seen by me in consultation with Mr. Keal, on December 20, 1855, on account of an unpleasant sensation in the left ear.

“*History.*—A week ago he was engaged in a ‘bolstering match’ at school, during which he received a blow with a bolster on the left ear, which caused him pain. In the morning, on using his pocket-handkerchief, he found that air rushed out of the left ear, so that he was obliged to place his finger upon the ear while using the handkerchief. On examining the ear, a rent was observed in the membrana tympani, running from the lower extremity of the malleus downwards to the inferior parts of the membrane. The margins of the rent were in contact, but the air passed through with the slightest pressure from the fauces. The hearing power was natural. He was ordered a little evaporating lotion to apply on cotton to the orifice of the meatus. Twelve days afterwards, the margins of the orifice were observed to be swollen, and a small coagulum of blood attached to them: air passed into the tympanum from the fauces, but it did not escape through the aperture. When I saw this patient after another fortnight, the orifice was closed, but the cicatrix remained.

“*Case III. Membrana tympani ruptured by blowing the nose forcibly.*—Miss S. A. N., aged 16, consulted me on February 5, 1860, for pain and discharge from the right ear, accompanied by dulness of hearing in both ears. Her friends stated that she had for a long time the habit of blowing the nose very violently; and when doing so, four or five months ago, she felt as if something had given way in the right ear, and since that time has had discharge from it. Whenever the nose is blown, air rushes out of the right

ear with a loud squeaking sound. On examining the right ear, the membrana tympani was observed to be covered with mucus; and when the nose was blown, air was observed to issue from the tympanic cavity through a valvular fissure at the posterior part of the membrane. Watch heard at a distance of two inches. The treatment consisted in applying leeches to the margin of the meatus, in syringing out the ear with a weak solution of liquor plumbi in water, and in keeping up a slight discharge from the surface of the mastoid process. It was, however, only by slow degrees that the discharge diminished, and the orifice in the membrane closed. The membrana tympani did not regain its natural appearance, the part of it posterior to the malleus having fallen inwards towards the promontory.

“*Case IV. Rupture of the membrana tympani by a twig: injury to chorda tympani nerve.*—J. L., Esq., aged 19, consulted me on September 25, 1856. A week previously, while engaged in shooting, he was endeavoring to force his way through a hedge, and turning sharp round, with the view of picking up a bird, a twig passed into the right meatus, producing a sudden and severe pain at some distance in, followed immediately by deafness and a little bleeding, which has continued to a slight extent every night since. A buzzing noise in the ear supervened soon after the accident. The pain speedily subsided. On examining the right meatus, a little coagulated blood was found; on removing which by the syringe, the membrana tympani presented a rupture extending through the greater part of its diameter, a little posterior to, and parallel with, the handle of the malleus. The edges of the orifice were red and swollen. Air passed through it when the tympanum was inflated. Watch only heard on contact. A leech was applied to the orifice of the meatus; and a mildly astringent gargle applied gently by the syringe, twice a day. On October the 4th, the orifice had entirely healed; the buzzing noise had almost ceased; the hearing distance was half an inch. This patient returned to India, but intelligence has been received that the hearing has greatly improved.

For days after the laceration of the membrane in the above case, there was a feeling on the same side of the tongue as if something cold had been rubbed over it; the taste on that side also was impaired. The tongue, however, was quite natural in appearance

and movements, and its sensibility to touch was the same on both sides.

“*Case V. Rupture of the membrana tympani by the bursting of a gun.*—W. S., Esq., aged 28, consulted me in September, 1856. Six days ago was shooting, when the gun burst in his hand, producing instant deafness in the left ear, followed, two days ago, by a copious discharge of a watery character. Yesterday there was a slight aching pain, and for two or three days every pulsation of the vessels has been heard in the left ear. On *examination*, the left meatus was found to be red and to contain purulent discharge; the membrana tympani was also red, and presented an aperture at its upper and posterior part of an oval shape, about a line in length, and nearly a line in breadth, as if a portion of the membrane had been destroyed; the mucous membrane of the tympanum was red, and the hearing distance four inches. A leech was applied occasionally to the margin of the orifice of the meatus; the ear was kept clean by daily syringing; and afterwards a lotion, the nitrate of silver (gr. x. ad 3j) was applied on cotton-wool, by means of a probe, to the surface of the membrane. The aperture slowly filled up, as if by the deposit of fibrin on the margins, which, for some time, were thicker than the surrounding portion of the membrane; and, in the course of six weeks, it was entirely closed, and the hearing power perfectly restored.

“In this case the right membrana tympani was previously ruptured, and the bursting of the gun produced no effect upon the ear.”

In further illustration of the author's style, and of the improvements for which the profession is indebted to him, we give in full the description of his method of exploring the Eustachian tube:

“*The exploration of the Eustachian tube.*—The method of doing this is so important to a thorough examination, as to require to be treated in detail. In a paper read before the Medico-Chirurgical Society in 1853, I pointed out a simple mode of ascertaining whether the Eustachian tube was pervious, and one which, as a general rule, is successful, without having recourse to the catheter. It has already been shown, that during the act of deglutition, with the mouth and nose closed, a small quantity of air is passed through the Eustachian tubes into the tympanic cavities; a process that is attended with a sensation of fullness in the ears. The entrance of air into the tympanum can be distinctly heard by means of an elastic tube about eighteen inches long, each end of which is tipped



with ivory or ebony; an instrument which I have named the Otoscope. One end of it is to be inserted into the ear of the patient, and the other into that of the medical man, who must take care that no portion of the tube touches any neighboring body. When the patient swallows a little saliva, the mouth and nose being closed, if the Eustachian tube be pervious, at the moment that he feels a sensation of fullness in the ear, the surgeon will hear most distinctly a faint crackling sound, produced apparently by a slight movement of the membrana tympani. This crackling sound is that most usually heard; but in some instances where the mucous membrane of the tympanum is thick, a gentle flapping sound will be detected in its place. If in a case of suspected obstruction of the Eustachian tube, the otoscope fail to reveal any sound during the act of deglutition; if no sound be heard when the patient makes a forcible attempt at expiration with mouth and nose tightly closed; and if the history of the case, the symptoms and appearances, agree with those already laid down as appertaining to obstruction of the Eustachian tube, I think the surgeon is justified in affirming that the tube is obstructed, and has no need to resort to the use of the Eustachian catheter. Doubtless, in many cases, a person is unable to force air into the tympanum, although the pervious condition of the Eustachian tube is shown by the test of the otoscope, and this may depend upon a peculiar arrangement of the lips of the tube which causes them to be pressed together by the compressed air. There are other cases also where the tube may be proved to be pervious by the patient forcing air into it during an attempt at expiration, although the act of deglutition with closed nostrils does not call forth any sound appreciable by the otoscope; but it is rare indeed for a pervious tube to resist *both* of these tests. I have, however, met with such cases; but, as their history, appearances, and symptoms have concurred in showing that no obstruction of the tube existed, it has not appeared necessary to introduce the catheter. In certain cases the membrana tympani may be seen to move during an attempt at expiration, even though no sound could be heard; the patient, therefore, should always be asked whether he perceives any sensation in the ears during the above named processes.

“Is the Eustachian catheter then useless as a means of diagnosis? Notwithstanding its frequent use by surgeons in Germany and in France, I am disposed to think so. By paying attention to the

points just laid down, it is my opinion that a case of obstruction of the Eustachian tube can always be diagnosed without the aid of the catheter. Respecting its use as a remedial agent, I shall speak hereafter.

“That the cause of the obstruction of the Eustachian tube at its faucial orifice is the thickening of the mucous membrane, is proved by actual dissection, by the coexistent thickening of the mucous membrane in other parts of the fauces, and by the results of the remedial measures adopted for its relief. An opinion formerly obtained a certain degree of credence in the medical profession, that enlarged tonsils frequently press upon and close the Eustachian tubes. There can be no doubt this opinion is erroneous. To convince himself that it is so, the surgeon has only to make an examination of the relative position of the tonsil and of the trumpet-shaped extremity of the tube; when he will find the tonsil situated from an inch and a quarter to an inch and a half below the tube, and placed between the palato-glossus and palato-pharyngeus muscles, the latter muscle entirely separating the tonsil from the tube: he will also find the Eustachian tube close to the base of the skull, against the basilar process of the occipital bone, and surrounded by the tensor and levator palati muscles, the function of which is, as already shown, to open the tube. Repeated examinations have convinced me that even should the tonsil enlarge to its greatest possible known extent, it never reaches the Eustachian tube; for, together with the enlargement of the tonsils, the palato-pharyngeus muscle also hypertrophies, and effectually separates the two organs. Nay, further, in the cases seen by me, where the tonsils have been the largest, there has been no deafness; a fact which must also have been observed by other medical men. Often, in a case of obstructed Eustachian tube in one ear, the tonsil has been comparatively small on the deaf side; while on the opposite side, where there has been no deafness, the tonsil has been large. There is no doubt that obstruction from hypertrophy of the mucous membrane of the faucial orifice of the Eustachian tube may coexist with enlarged tonsils; but the mere coexistence of two affections must not be confounded with cause and effect.”

Having given these rather copious quotations, but little remains to be done. The general arrangement of the work is thoroughly systematic. The special topics are discussed in a style at once natural, clear, candid, and simple. The author's original investi-

gations have been numerous, and without the least exhibition of pedantry, are made to constitute the great characteristic of the book. It is thorough, yet not tedious in its details. It is comprehensive in its scope, giving it completeness, within a moderate compass. It is copiously illustrated with one hundred well executed wood cuts, most of which are new. In fact, the mechanical execution is all that the most fastidious could desire, and the book, in every respect, one of very special merit.

H.

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## Editorial and Miscellaneous.

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### *Notes on a Trip East.*

In our July No. we commenced sketching, in a very brief way, what we saw of men and things on a recent trip to the Eastern cities; and as we did not then exhaust our "note book" we shall draw upon it again for a few other matters that may be of interest to the medical reader.

During our brief stay in Philadelphia we had but a short time for interviews with medical men, and notices of the medical institutions, with which the city abounds. We saw or heard but little as a consequence worth relating. The old class of professors, the men who gave to Philadelphia its former renown, we noticed has almost entirely disappeared. Dr. Samuel Jackson, perhaps the oldest teacher of medicine now in the United States, is still, however, on duty; and so is Dr. C. D. Meigs. The latter has retired from practice, and taken up his residence some twenty miles from the city. We found Dr. Dunglison at his desk, as usual. He remarked to us that he had not written a book for some eighteen years, his time having been mostly employed during this period in revising what he had previously written. We understood, however, before leaving the city, that he now has in contemplation a work on Physiology for the use of Academies and Common Schools. Dr. Dunglison, although advanced in years, still has the appearance of possessing a large amount of vitality, and works now, per-



haps, as much as ever. A very fine colloquist, he seems to enjoy, in an eminent degree, conversation on medical subjects; nor have we met any medical gentleman in the country who was more at home on all subjects than Dr. Dunglison. He is likely the best instance of a Peripatetic Encyclopædia that we have. Strange as it may seem, he practices none, nor has he for the last twenty years. All his time has been taken up with his books. He has always wielded a very ready and a very accurate pen, and it is on these accounts, that his numerous works have had currency.

We made our respects, while in the city, also to our Western friend, Dr. S. D. Gross. Our visit was just after the appearance of his "*System of Surgery*," a work of near two thousand pages, and he seemed to be in that pleasant mood which, it is said, an author experiences after "laying out his strength." He was too, no doubt, watching with some interest the first verdict of the press in regard to his book. By this time likely the opinions are in, in sufficient number to enable him to know to what extent he is appreciated. The work has been barely *noticed*, not reviewed, in our Journal, owing to the want of time necessary to look through its contents. As soon, however, as the weather gets a little cooler, and the nights longer, we will undertake the task of cutting its leaves, and taking a tour through it, from cover to cover. In the mean time, we bespeak for it, "on general principles," the earnest attention of those who wish to furnish their libraries with works of the kind.

We visited the Museums of the old University, and also of Jefferson Medical College. Both contain some very clever facilities for instruction, and a few things interesting to the Naturalist. And, by the way, both of these schools, whether the facts are generally known or not, have succeeded at last, we are told, in getting up right down respectable classes, classes that would pass muster even out here—most any where.

With Dr. J. Pancoast we saw something of the service at Pennsylvania Hospital. The only case of interest was that of a male adult, upon whom amputation at the *hip-joint* had been performed for supposed *fungus hæmatodes* at the knee. We saw the patient on the fourth day after the operation, and he appeared to be doing well. The hemorrhage was controlled by compressing the abdominal aorta. Dr. Pancoast, who operated, remarked, that this was the first operation of the kind ever performed in Philadelphia

The operation was performed, however, first in this country by Dr. Mott, on the 7th of October, 1824, on a boy. Against the 20th of November succeeding, the stump was healed and the boy soon afterwards grew fat.

Morand is the earliest practitioner who made this operation a subject of study, and in the year 1739 two essays were communicated to the *Royal Academy of Surgery*, at Paris, on the practicability of the operation. In the year 1756 the Academy offered a prize for the class of cases in which the operation is advisable and the best method of performing it. Pot witnessed the operation and gave his testimony against it. The French seem to have first suggested the operation, but it is a singular fact that it was performed for the first time by an English Surgeon, H. Thomson, Surgeon to London Hospital. The operation has been repeated by Kerr, Larrey, Baffos, Langenbeck, Syme, Samuel Cooper, Sir Astley Cooper. The success of the operation has been variously stated. Ferguson thought that one patient out of every three on whom it has been performed, has been saved. But Sands Cox furnishes the simple evidence of numerical facts, by which it is seen that out of 84 cases in which amputation at the *hip-joint* had been performed, 26 were successful and 58 unsuccessful; or out of every 10 operated upon, 7 died and 3 recovered.

All who are able to appreciate the extensive mutilation involved in this operation, the removal of almost one-fourth of the body, and the consequent shock that the organism must sustain, can see at once the propriety of the French Academy of Surgery in offering a prize for the best essay on the question—"Should the operation ever be performed as the only resource for saving the patient's life." Some years ago we looked through the literature of this question, and our recollection is that the operation is justifiable in extensive injury of the soft parts about the hip-joint in connection with bad fractures of the upper third of the femur, either from gunshot wounds or other causes. But in exostosis, caries, or necrosis of the head of the femur, there is apt also to be a similar trouble at the acetabulum, extending often over the innominatum. Such being the case the operation would be useless. But more positively does it appear to be contra-indicated where there is a scrofulous or cancerous cachexia. If, therefore, Dr. Pancoast's case was what he supposed it to be, fungus hæmatodes, the operation

must be looked upon as simply experimental, and in this light it was, perhaps, justifiable. We hope to hear that the patient has recovered.

PHILADELPHIA ACADEMY OF NATURAL SCIENCES.—Having been a little exercised for a few years with the infant science of Ethnology, we visited the academy for the purpose of seeing the collection of skulls made by the late Dr. S. G. Morton. This collection now contains 1,100 specimens, representing more than 170 different tribes and races of the human family. We have now no space or time for any remarks on this valuable cabinet. Full accounts of it may be seen in the writings of Dr. S. G. Morton himself, and in those of J. Aitken Meigs, Librarian of the Academy. A word or two, however, on the crania of several of the anthropoid apes which are found in the collection.

Secular papers of late have contained accounts of the "wild man" of Africa, lately brought to light, and many fabulous stories have been put into circulation in regard to his size, strength, habits, location, etc. These stories relate to two species of ape, the Gorilla and Chimpanzee, not new to naturalists, but in regard to which much interest has lately been felt because of their alledged close relation to the lowest types of humanity. From seeing only a cranium or two of the Chimpanzee, and but casts of the Gorilla skull and lower jaw, we have come to the conclusion that the popular notion, that the Gorilla is the nearest approach to man, is incorrect. This animal is evidently larger than the Chimpanzee, reaching, when full grown, likely seven feet in height, and possessing great agility and muscular power. The cranial cavity is less though than that of the Chimpanzee, and more posterior to the face; the facial angle is less; the area of the cranium to that of the face also less. The teeth of the Gorilla are very large, double the size of the teeth of an adult man; and, owing to the great development, especially in length, of the canines, the countenance has imparted to it a very animal-like aspect. I believe it is Owen who, in a paper on the *Troglodytes Gorilla* from the Gaboon river, Africa, states that he regards this animal as the most anthropoid of the known brutes. The weight of authority is now, however, against Owen, and it is believed that his opinion was founded on observations of the crania of young Gorillas, that, strange as it may seem, have more points of resemblance to man about the head and face, than the adult ones.



No one, however, who inspects the data that was before us, at the Academy, in Philadelphia, and at the Smithsonian Institution, can fail in being impressed with the resemblance of these higher types of the ape, to the lowest forms of humanity. On this subject Agassiz remarks: "The Chimpanzee and Gorilla do not differ more from each other than the Mandingo and Guinea negro; they together do not differ more from the Orang than the Malay or white man differs from the negro." It is also a singular geographical coincidence, that around the Bight of Benin we have dwelling, not very far apart, the Gorilla, the Chimpanzee, and the lowest forms of the negro type.

THE SMITHSONIAN INSTITUTION.—Those who have received the reports of this Institution are fully aware of the circumstances connected with its origin, and known something of its progress in carrying out the objects of its founder, James Smithson.

The bequest, in the language of the testator, was to found at Washington an establishment, under the name of the Smithsonian Institution, for the *increase* and *diffusion* of knowledge among men. The whole amount of money received from the bequest was \$515,169. From this fund a building has been erected, the cornerstone of which was laid in 1847 in the presence of President Polk and his Cabinet. The material employed in the construction is a lilac gray variety of free-stone, found in the new red stone formation on the Potomac river. The style of the architecture is that known as the Norman, which prevailed during the last half of the twelfth century. The financial affairs of the Institution have been ably managed. Besides the cost of the building, \$300,000, and about \$100,000 expended in books, apparatus, etc., the principal of the bequest has been increased \$125,000. This reflects, in these corrupt times, great credit on the "Board of Regents."

On the *interest*, then, of some \$635,000, this Institution is now kept in motion for the purpose of carrying out the intentions of its founder. After defraying the expenses of officers, and keeping the buildings and grounds in repair, very considerable sums are annually expended in the purchase and publication of scientific works, in the collection of specimens in Natural History, and in the encouragement of original research in various departments of science. Mr. Smithson, in his bequest, states that he wished to *increase* and *diffuse* useful knowledge, and, as a consequence, Prof. Joseph Henry, Secretary, and Spencer F. Baird, Assistant Secretary, having

most, as we suppose, the scientific charge of the Institution, have regarded, and we think very properly too, the first object, *the increase of knowledge*, as of primary importance, and hence no little has already been accomplished in this direction. Every investigation that promises a new truth, it matters not how abstract, takes precedence in the way of patronage. To medical men it may be interesting to know that every thing new pertaining to Vegetable or Animal Physiology, or to Microscopy, or to any department of Natural History, is regarded as being in the line of Mr. Smithson's objects, and the Institution is very likely to aid in the publication of such researches.

Already the reports contain contributions from physicians, and we can see no reason why these in the future may not be increased.

We have no space for notices of the Library, Museum, Gallery of Art, Meteorological and Magnetic Observatory. The Institution should be visited to form an idea of what it is.

A visit to the Museum, which is just now about 100 years the junior of the British Museum, the largest in the world, will pay any one well, and serve, to a very considerable extent, the purposes of travel. Really, more may be seen here in a few hours than would likely be in making a circuit of the globe. The Zoologist, in walking through it for the first time, feels himself at once surrounded with the animals of every clime, land and sea.

The "Board of Regents" have allowed the owners of many valuable works of art the right of deposit in the building. Among these are portraits from life of forty-three different tribes of Indians painted by Stanley. These, taken with the government collection, which now numbers about one hundred and fifty portraits, make a very fine gallery, and will do much, indeed, all that can be done, to preserve for posterity something of the appearance of the autochthon race.

We visited this gallery after having just seen the Japanese, and were impressed with the great difference, among other things, in the expression of countenance of these two varieties of the yellow race. Earnestness, severity and ferocity predominate in the countenance of the American Indian; while that of the Japanese is bland, mild, good-humored.

The Library now contains 25,000 volumes; also the transactions of a great number of learned societies throughout the world;

and a collection of engravings that has in it some of the best works of nearly every engraver of much celebrity.

This Institution cannot fail to exert a very valuable influence on scientific researches in this country.

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AMERICAN MEDICAL GAZETTE, (N. Y.)—Just as we are going to press the Gazette comes along with a rejoinder to our reply to its "*Hyperbolic Caricature*;" and we regret that we have time, at present, for but a word or two.

We notice, among other things, that the editor of the Gazette has allowed of a slight suspension of the natural suavity! and sweetness! of his temper. He seems, at the distance of some five hundred miles, as though he had lately suffered a little from an attack of frustration, a calamity that we should regret very much to know we have had any hand in bringing about.

The editor of the Gazette makes no attempt in the effort before us to impugn a single position we have taken, touching the scientific questions at issue; or in relation to the progress of knowledge in this country. Indisposed during "dog days" to such labor, he seems to conclude to risk what there is left of him in the controversy between us, in trying to make it appear that we have misrepresented him *grossly*. And in doing this he bases his charge on an alleged perversion of one of *his* answers to our question: "What have we discovered in Physiology?"

That the reader may judge for himself we will give the Gazette's answer and then our own.

The question we propounded was, "What have we discovered in Physiology?"

The Gazette's answer was, "*Much every way*. See Dunglison, Dowler, Dalton, Campbell, Isaacs, Draper."

We represented the Gazette as saying, "Much—much every way—no time for specifications."

We now discover that in rendering what the Gazette said on the question pertaining to physiology, we inadvertently gave also his answer to the question on Practical Medicine. "What have we discovered in the treatment of disease?" was our question on that subject.

Here is his answer: "Innumerable improvements have been made by American physicians in every department of the healing



art, conceded to be such by all Europe, and adopted in the most enlightened transatlantic nations. WE HAVE NO ROOM FOR ENUMERATION," etc.

What, now, is the difference in import between the sentences? "No time for specification," and "No room for enumeration."

We can see none. And we submit to the reader, whether now we have not treated the editor of the Gazette fairly—given the substance fully of what he said. It is true that we gave his answers to *two* questions instead of to one, for at the time we were speaking of *his mode* of answering questions. But does this misrepresent him? He used the language that we have attributed to him, and in answer to our questions.

As we shall not, from what is said, have the pleasure soon again of breaking a lance with the editor of the Gazette, we will just remind him before parting, that he has incidentally, in his controversy with us, got into a little trouble with a sophomore at our elbow, who criticises his Latin. Will he fix up this before parting, or is he completely now *hors de combat*?

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HOMŒOPATHY—OHIO PENITENTIARY.—Our course in regard to all irregular systems has mostly been characterized by silence. People in medicine, like in every thing else, have an uncontrollable curiosity. The educated, as well as the uneducated, wish to see for themselves every thing that is to be seen, and try every thing that is to be tried. And the history of things goes to show, that ostensible absurdity, probable fraud, or dangerous appearances, only have the effect of strengthening the desire for experimental knowledge. As a consequence the most unreasonable and inconsistent doctrines, and the most unworthy and uninformed men, have always a warrant, at the hands of the people that nothing shall go untried.

Such being the constitution of the people we have found always, what, to us, seemed more useful employment, than the attempt to either stop, or cut short the course of any folly with reference to medicine. But when, as in the case before us, it has been demonstrated theoretically and practically that the system is false, we are, to say the very least, surprised that it should not at once be consigned to oblivion, and the supporters of it, if not entirely de-

mented, advised to turn their attention to something of service to themselves and community.

We have had in this city a *Homœopathist* appointed to take charge of a medical service in one of our public institutions, the Ohio Penitentiary. This action on the part of the "Board of Directors" struck many intelligent and right-minded citizens all over the State as very strange. Were the Directors aware that by this appointment they were setting themselves up as judges of what is right in medicine? Were they aware that, if the appointee be faithful and honest in the practice of his system, the "*convicts*" will receive no medicine, it matters not with what disease they may become affected? Did they know that homœopathy has been tried in the public institutions of Europe, and universally dismissed as being equivalent to a mere *negation* of medicines? Do they know that those who have been engaged in practising the system, in the various cities of the United States, have been compelled, from want of success, to thicken it up with doses of the proper quantity?

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LABORS OF LOVE.—It is perhaps not generally known that those engaged in the investigations of Nature, work solely under the influence of love. At every stage of inquiry they extract pleasure, often of the intensity connected with the discovery of something *new*; and this is their reward. The Naturalist will freeze or roast himself in foreign climes, submit to deprivations of food and clothing, will climb mountains, traverse dangerous forests, wade streams, and breathe deadly poisons, in the pursuit of his favorite object, and then come home with his specimens and either beg from rich merchants and bankers the means of publishing, or else bankrupt himself in doing it. Wilson, the American *Ornithologist*, states, in a letter to Michaux, that he sacrificed every thing to publish his work. Bowditch, while meditating on the publication of his Commentaries on *La Place*, assembled his family together and told them, that, in order to carry out his designs, he would have to sacrifice one-third of his property. Several works, now in course of publication, on the different branches of Zoology, will leave their authors, it is said, losers by an aggregate of \$15,000. The illustrated works of naturalists, the only one's worth much,

find few purchasers—and it is said, in an address touching this subject, that the number of copies published seldom exceed two hundred and fifty.

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OHIO MEDICAL COLLEGE—REORGANIZATION.—This old school, founded by the late Dr. Drake, has just been reorganized in both Trustees and Faculty. The Faculty at present consists of the following gentlemen:

M. B. Wright, M.D., Professor of Obstetrics and Diseases of Women and Children.

George C. Blackman, M.D., Professor of Surgery and Clinical Surgery.

James Graham, M.D., Professor of Practice of Medicine and Clinical Medicine.

W. W. Dawson, M.D., Professor of Anatomy.

James F. Hibberd, M.D., Professor of Physiology and General Pathology.

J. C. Reeve, M.D., Professor of Materia Medica and Therapeutics.

Charles O'Leary, M.D., Professor of Chemistry and Toxicology.

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BOOKS AND MONOGRAPHS.—We have since our last issue received a number of books and monographs which will receive attention in due time. Among these we may specify—

*A Successful Case of Ovariectomy*, by Wm. H. Byford of Illinois, Professor of Obstetrics in Lind University.

*Inflammatory Affections of the Female Breasts*, by same Author. O'Reiley on the *Placenta and Nervous System*.

*Physician's Visiting List*, 1861, by Lindsey & Blakiston. Thompson on *Fever*.

Walsh on *Diseases of the Lungs*.

Winslow on the *Brain and Mind*. (Blanchard & Lea.)

Todd's Clinical Lectures on *Certain Acute Diseases*. (Blanchard & Lea.)

*Hallucinations*, by A. Brierre De Boismont, M.D.



MEMPHIS MEDICAL COLLEGE.—The Annual announcement of this Institution for 1860-61 is before us. Among the Faculty we recognize the name of our old friend, L. P. Yandell. He has the chair of *The Principles and Practice of Medicine*, and is also *Dean*. With the other members of the Faculty our acquaintance is but slight. The success of the school, however, has a very certain guaranty in the reputation and industry of Professor Yandell.

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UNIVERSITY OF BUFFALO.—The medical department of this institution has lately sustained a loss in the resignation of Prof. Hamilton, who occupied the chair of Surgery. We see, however, that our old colleague, E. M. Moore, M.D., has been selected to take the chair vacated by Prof. H. A better appointment than this could not easily have been made.

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ENDOWMENT OF MEDICAL COLLEGES, SOUTH.—We notice that the Legislatures of several of the Southern States, have lately made donations to medical colleges, either for the purpose of getting up new ones, or for placing those already in existence upon a more permanent footing. The Virginia Medical College, at Richmond has come in for a part of the good fortune, by receiving \$30,000. The Alabama College, at Mobile, has been also highly favored by the State. These are examples worthy of imitation, even by us *Christians!* here in the North.

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NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.—This valuable "Exchange" we no longer have the pleasure of seeing on our table. What has become of it?

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The bore for water now being made in this city, is said to be much the deepest in the world. It has attained the depth of 2,676 feet, and is progressing at the rate of 4 feet daily.

The last 130 feet has been in sand stone. The workmen are calculating, with some degree of confidence, that they will find water on passing through this stratum.

H.

DEATH FROM THE USE OF CHLOROFORM.—We learn from the Cincinnati Commercial, that on Sunday, the 26th ult., Peter Thoma, a German, aged 29 years, died from the inhalation of chloroform, which was being given by Dr. W. J. A. Krause and two other physicians, not named, preparatory to the operation for artificial pupil. It is admitted that it was intended to produce a profound effect, as would be necessary in such circumstances. It is said to have been administered with the ordinary precautions.

This is the third case in Ohio, in which death from chloroform has become matter of general notoriety. The first was in Cincinnati, the second in Trumbull county. We have heard from private sources that another occurred in Delaware county, a couple of years since. We trust it is not necessary to remind physicians of the duty of giving publicity to everything bearing upon this subject.

H.

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HIGH OPERATION FOR STONE.—The August number of the American Medical Gazette, contains the report of ten cases in which the supra-pubic operation for stone was performed. The cases are reported by Dr. James R. Wood, and were performed by the surgeons and with the results named as follows:

Prof. Willard Parker,	4	operations,	with	3	recoveries	and	1	death.
Dr. Krackowitzer,	3	"	"	0	"	3	"	
Dr. Noeggerath,	1	"	"	1	"	0	"	
Dr. Hewitt,	1	"	"	1	"	0	"	
Dr. J. R. Wood,	1	"	"	0	"	1	"	

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Making                      10 operations, with 5 recoveries, and 5 deaths.

In one of Prof. Parker's cases, although at the end of three months the patient was quite comfortable, she had a slight opening above the pubis, from which, at times, pus escaped.

These results are not such as to encourage the repetition of the operation, where it can be avoided.

H.

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We hear of the prevalence of Diphtheria, in Madison county, also in Lake county, and other localities. We will be under especial obligations to our friends who are practicing among it, if they will forward us the results of their observations for publication.

H.

*Editorial Correspondence.*

A professional friend who was permitted to read the following correspondence, requested the publication of it. As our reply contains cautions which we feel frequently obliged to give, in our private correspondence with physicians, on this subject, we have concluded, as well as on account of the very interesting character of Dr. Ferris' case, to give it an insertion.

UPPER SANDUSKY, *August 27, 1860.*

PROF. HAMILTON—*Dear Sir:* There is a case of what I take to be ovarian dropsy in this place, attended with a peculiarity that I never saw before, and find no account of in the books. I will give you a history of the case as well as I can, and should be glad to have your opinion in relation to it.

The patient is a lady about 55 years of age, is married, and has borne a number of children. Of previous good health. In September last, she discovered a bunch in her left side, in the region of the ovary, since which time it has gradually increased in size until it now fills the entire cavity of the abdomen, and must contain near two gallons of fluid. The boundaries of the tumor in its first stages were distinct and easily defined. The peculiarity of which I speak consists in a vaginal tumor or cyst, about four inches in its largest diameter, and three inches transversely. The cyst is fluctuating, and evidently contains fluid. It is situated in the inferior and posterior portion of the vagina, having an attachment about one inch broad and extending from the lower extremity of the vagina about two and a-half inches up the same. The upper portion of the vagina and os uteri appear to be healthy and in their natural position. The external cavity of the tumor is entirely composed of the mucous membrane of the vagina. The tumor is free from soreness and pain. It commenced at the same time of the ovarian tumor and has grown with it. Her general health has suffered but little until recently. There has been no pain or soreness. The patient can rest well in bed in any position. The os and cervix uteri are healthy.

This is the history of the case as I have learned it from her. I never saw it until a few days since, when she came here from Bucyrus. She has been subject to medical treatment without any benefit.



If you will answer the following questions, you will much oblige me:

1. From my history of the case what, in your opinion, is the nature of the tumor in the abdomen?
2. What is the nature of the vaginal tumor, is it a simple cyst containing fluid, or is it a fold of the peritoneum passed down between the rectum and vagina protruding into the vagina?
3. Is it a favorable case for an operation?
4. Before proceeding to operate for the removal of the ovarian cyst would it be expedient to tap the vaginal tumor?

By giving me an answer to these questions, at your earliest convenience, you will much oblige your humble servant,

O. FERRIS, M.D.

COLUMBUS, *August 25, 1860.*

*Dear Sir:* I suppose from the history of your patient given, that her disease is ovarian. Yet in regard to this matter it is well enough to be guarded. The point of origin of a uterine tumor, the direction and mode of development, &c., are frequently not to be distinguished from that of ovarian disease. In fact, in a recent case where the history seemed unequivocally to point to the ovary as the point of origin of a large abdominal tumor present, the symptoms indicated, and finally a post mortem demonstrated, that the tumor was nothing more nor less than an enlarged liver.

I will just say that, with the aid afforded by your letter, I should be inclined to one or the other of two suppositions:

1. A multilocular ovarian cyst, one part of which has developed in the recto-vaginal space, the other in the abdominal cavity, or
2. A large uterine tumor, with effusion in the abdominal cavity, and a smaller tumor in the recto-vaginal space with a long pedunculated attachment.

As to fluctuation, and the indications afforded by it, it is not safe to be too confident. In two of my cases in which fluctuation was exceedingly distinct, there might be serious question, after removal, as to whether the tumors should be called solid or cystic. The great bulk of them consisted of gelatinous substance, imperfectly if at all organized, exceedingly elastic, and consequently presenting fluctuation in a marked degree.

A large number of points, additional to those given in your letter, would have to be before me before I could intelligibly decide

the question of operation, or the propriety of tapping. Is the uterus movable? What is the length of its cavity and the direction of its axis? Was the abdominal tumor movable during its growth? Is it yet movable? Is the abdominal tumor lobulated or regular? Has the patient at any time had peritonitis? Has she inherited a cancerous proclivity? What are the facts in regard to the degree, direction, situation, &c., of fluctuation? Aside from the tumor, is there evidence of the presence of fluid in the peritoneal cavity? Are the liver and spleen probably healthy? These are the leading things to be settled preparatory to operation.

*Finally*, as an individual I should not advise an operation in this or any other case, till I had, as clearly as possible, and beyond a reasonable doubt, made out the diagnosis of *cystic ovarian disease*. If I could make out, with a reasonable degree of certainty, that it was of the proliferous kind, I should not hesitate to advise and undertake the operation, unless there were present some special contra-indication. But such fearful procedures as are included in ovariectomy ought not to be undertaken, except in the absence of all reasonable doubts in regard to diagnosis. The necessity of caution is sufficiently impressed by the numerous mistakes, in able and honest hands, which have been made. You are, no doubt, familiar with the fact that of the fifty-eight operations which have been undertaken in our own State, mainly by surgeons of undoubted ability, more than one-twelfth of the whole were predicated upon mistaken diagnoses.

Respectfully,

J. W. HAMILTON,

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*Comparative Pathology;—The Massachusetts Epizootic.*

[To the Editor of the American Medical Times]

SIR:—The great value and importance of comparative physiology, in elucidating the physiology of man, is, at the present day, universally admitted. Without experiments on the lower animals, Harvey could never have demonstrated the circulation of the blood as now understood; and Dr. Marshall Hall would never have even suspected the reflex or diastaltic function of the spinal cord. For it was while experimenting for an entirely different purpose upon the proteus, that the latter made the most important physiological discovery of the present century.

But comparative pathology is almost entirely ignored by medical men. And yet there is no reason, *a priori*, why the pathology of the lower animals should not throw as much light on human pathology, as has its allied department of science, above mentioned, upon human physiology. On the contrary, there is ample reason for the belief that the same amount of investigation would yield results to the medical practitioner even more important and valuable. For a science of comparative therapeutics may be formed upon that of comparative pathology as its basis; and then the former may be applied in illustration, and to the extension of human therapeutics. Not that a particular remedial agent will of course have the same effect upon the human organism which it has been proved experimentally to produce in a lower animal. Aconite is eaten with impunity by the horse, hemlock, by the goat, belladonna by the rabbit, and nux vomica by a species of buzzard; but all these are poisons, except in minute quantity, to man. On the other hand, parsley is a poison to the parrot, and food to man. Nor, if we know the proportionate doses of a particular medicinal agent for man, and a particular species of the lower animals, can we infer the proportions required of another remedy. The horse requires ten to twelve times as much aloes for a dose as a man; but the latter can not tolerate one-tenth of the amount of arsenic which is appropriate to a horse. Still, comparative therapeutical experiments are always suggestive; and sometimes lead us, as it were, by a thread, to use one of Sydenham's expressions, to some important practical fact or principle in human therapeutics. For instance, the effects of arsenic in improving the external appearance of horses, suggests the idea that it may be found a valuable remedy in certain diseases of the human skin; and experience demonstrates this to be the fact.

Thus the most reliable method of advancing the science of human therapeutics, next to direct experiment on man, is therapeutical experimentation on the lower animals in known pathological conditions. It is in fact in this way that we have acquired most of our knowledge of the antidotes to the various poisons; and even the discovery of vaccination, by Jenner, was the result of his investigation of a pathological condition of a lower animal.

We will not, however, prolong our remarks on the importance to medical men of comparative pathology. But there is another point of view in which this subject assumes the gravest importance to the community and to the commonwealth. Some of the diseases of the lower animals are epidemic in their nature, and cause a great



pecuniary loss to the owners of the animals infected by them; as is the case with the glanders in horses, the rot in sheep, and murrain in cattle. Nor is this all. In case of the ox and the sheep, the most fearful results to health or life may ensue to those who eat the flesh of animals contaminated by the disease. And in view of both the loss of human health and life, which an epidemic disease affecting our domestic animals may produce, it becomes the obvious duty of the State at once to adopt measures for its extinction.

These remarks have been suggested by the fact that a fearful epizootic is now destroying the cattle in certain portions of the State of Massachusetts, and has already extended to some of the adjoining States. Not long after its first appearance, and about three months since (it having originated from some imported stock,) the Massachusetts Legislature appointed a "Board of Commissioners" to provide for its extirpation; that Legislature has recently been again convened, expressly "to consider what further action in this emergency is required,"

The importance of this subject to the community at large, in a pecuniary point of view, may be inferred from a few facts in the history of other similar epidemics. During that which affected the neat stock in England from 1744 to 1754-5, not less than 40,000 head of cattle perished in Nottinghamshire alone, and 30,000 in Cheshire, in six months. Parliament enacted a special ordinance authorizing the killing of all infected animals, and during the third year of the epizootic £135,000 was paid by Government for 80,000 head of cattle killed in accordance with that act. During that year also about twice as many died of the disease; making a total loss of 240,000 head. During an epizootic in Holland, in 1857, over 40,000 head of cattle were slaughtered, or died, in only 43 villages. Appalling facts are these to the farmers of New England in the present emergency!

But the danger is by no means confined to New England. A single infected animal transferred to a distant State may spread the disease in all directions, and to any distance. Every cattle-raising State is therefore interested in this subject; and Ohio, Kentucky, Illinois, and, coming eastward, Pennsylvania, New York, and New Jersey, as well as all the New England States, have sent commissioners to Massachusetts to investigate the disease.

Of course everything depends on the *competency of the commissioners*. And while any body can kill an infected animal, and so far prevent the spread of the disease, only a thoroughly educated

pathologist, whether he be a medical or a veterinary practitioner, is competent to determine the causes of the disease, the laws of its propagation, and the best method of cure. It has been called a pleuro-pneumonia; but the local inflammation is, in all probability, not the essential element of the disease. All epidemic and epizootic diseases are probably due to some agency acting primarily upon the blood.

E. R. P.

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QUACKERY.—“An arrest was made on Saturday last of Dr. J. E. Ealing, recently arrived in this city and advertising for practice as an aural surgeon, under a provision in the act of incorporation of the Medical Society of the District of Columbia, which disallows persons from abroad to practice medicine or surgery in the District unless such persons have received a diploma to that effect from some recognized school here or elsewhere. The case was brought before Justice Meyer, on Eighth Street. One of the witnesses in the case was Dr. J. F. May, who identified Dr. Ealing, alias Elliott, as a person who operated last winter in Nashville, Tenn., as a corn-cutter and extirpator of bunions and excrescences from the feet; that was the whole height and extent of his pretensions in Nashville.

“During the short time he has been in Washington great numbers of persons of every condition in life had applied to him, and large sums of money—in one case five hundred dollars—had been paid him for pretended cures. In answer to a question put directly to the defendant by Dr. May, as to whether he was not the same person who operated as a corn extractor, etc., Dr. Ealing for some time hesitated, but at length answered, “Perhaps I am.” Mr. James Henderson, who travels with Dr. Ealing as his agent, was also examined by the Justice, and gave confirmatory testimony as to Ealing’s traveling with an alias, and his receipt of large sums of money for his so-called cures of deafness. It appears, also, that when in Nashville Dr. Ealing, alias Elliott, publicly claimed “to belong to the surgical staff of the medical department” of Queen Victoria, and signed himself “Operating Surgeon to the Queen of Great Britain.” The Justice held Dr. Ealing to bail in the sum of \$1,000 for a second appearance, for which he afterward took \$300 cash in hand, and kept a watch upon his movements, so as

to prevent his escape. But the Justice does not seem to have been very successful, as the rooms at the National held by the Doctor were vacated yesterday afternoon and their occupant could not be found, though much in request by numerous indignant patients who had paid 'in advance.'—*Nat. Int.*

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ERECTILE TUMORS.—Dr. Daniel Brainard, published, in the Chicago Medical Journal for June, an extended essay on the pathology and treatment of erectile tumors. He sums up the relative merits of the different methods of treatment as follows:

1. Excision should be performed in every case where the size and situation of the tumor will admit of its being performed. This is almost as much a rule in these cases as in cancer. The exceptions are the slight cases which may be trusted without treatment until they increase in size.

2. When excision would cause too great a loss of substance, danger from hemorrhage, or when, from any cause, excision is objected to, strangulation is to be preferred next in order and whether effected with ligature alone, or with needles or other means, it should always, if possible, embrace the whole diseased structure.

3. In limited superficial naevi and erectile tumors, particularly if placed over bony surfaces, compression will often diminish, if not cure, the disease.

4. In deep-seated tumors, particularly aneurisms by anastomosis, cauterization with the hot needles is an extremely efficient remedy, either by itself or in connection with other means.

5. Setons or metallic needles may be used in the venous forms of the disease. They are more effectual when placed, to some extent, in sound tissue.

6. Ligature of the principal artery leading to the part, is adapted to the variety called aneurism by anastomosis, the accidental thrilling variety, and particularly to that variety situated in the orbit of the eye. I believe, however, that it is more dangerous and less necessary than is generally supposed.

7. Vesicants, escharotics and caustics, are adapted to complete a cure, when a small portion of tissue remains after excision, strangulation or seton. They are uncertain and little to be relied on.

8. A combination of several of these methods of treatment will often be found advisable.



*Salivary Calculus.* By H. B. BURNHAM, M.D., Epping, N. H.

J. H., aged 48 years, of spare habit and slender constitution, some fourteen years since was seized with a severe pain under the left side of his tongue. He applied to his family physician, who could give him no satisfactory information as to the cause or nature of his complaint; neither could he afford him any relief. He was induced to consult other physicians in his vicinity, and he did so with like results. In the mean time, a small tumor made its appearance on the under side of his tongue, near or at the seat of pain. He went to Boston and consulted the late Dr.—, who informed him that his disease was cancer, and gave him but little encouragement as to any permanent relief. He returned to his home, determined to abide the result of what he then supposed an incurable disease. From that time until about the first of February last, he has suffered paroxysms of severe and excruciating pain at different times. The tumor gradually increased in size, and the paroxysms of pain became more frequent, until it finally became inflamed, suppurated and burst, discharging a small quantity of pus and a calculus weighing fifteen grains, having the general appearances of ordinary renal or biliary calculi. He has since been entirely free from pain.—*Boston Medical and Surgical Jour.*

CHLOROFORM AS A HYPNOTIC.—Opium and lactucarium are almost the only two agents which induce sleep by a special sedative action; and they both have their inconveniences as well as their highly valuable properties. A hypnotic without these inconveniences would prove an agent of great value, and M. Fonssagrives, of Cherbourg, believes that chloroform is that agent, judging from his having used it with constant success since 1854, when it was recommended by Dr. Uytterhaven, a Belgian practitioner. Sleeplessness arises from different causes; sometimes it is the result of the persistence of a painful symptom which forcibly excludes repose; at others it constitutes an entirely nervous symptom originating in some moral sufferings, absorbing preoccupation, or too prolonged or too active intellectual exertion; while at other times it proceeds from a vicious habit of the cerebral centre. The sleeplessness becoming a cause of sleeplessness; or, finally, the sleeplessness may result from the abuse of hypnotic remedies, or may be an epiphenomenon of certain acute diseases. It is in these latter cases that chloroform is of especial service. The dose is small but effectual, namely, from five to ten drops.—*Bull. de Therap.*, tome lvi.

**VITALITY OF TOADS.**—Toward the year 1850, a workman, in the neighborhood of Blois (France), struck a mass of silex with his pickaxe, and saw a live toad jump out of the stone. At that period doubts were entertained as to the supposed indefinite vitality of toads, which had been deduced from the above-mentioned fact; and M. Dumeril showed that toads, having cartilaginous ribs, could introduce the whole body where the head would enter. These animals are fond of slipping thus into very small apertures and crevices; and hence the error about their vitality when confined within stone. M. Milne Edwards' father, in order to bring the matter under direct experiment, buried some toads in plaster, and where, from the porosity of the plaster, or the existence of crevices, air could penetrate, the creatures lived several weeks, and even months; one, in fact, lived thus for *eighteen months*, this being the only authentic fact of the kind. When, however, the plaster had neither porosity nor crevices, the animals were always found dead and dried up.

At a late meeting of the Academy of Sciences of Paris, the members present had an opportunity of breaking up masses of plaster, in which M. Seguin had imprisoned a viper and a toad in 1852. Both animals were found dead, and evidently dried up for a number of years.—*Lancet*, July 14, 1860.

## R U P T U R E.

### MARSH'S NEW PATENT RADICAL CURE TRUSS

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# FOURTEENTH ANNOUNCEMENT OF LECTURES OF STARLING MEDICAL COLLEGE.

FOR THE SESSION OF 1860-61.

COLUMBUS, O.

**T**HE next session of Starling Medical College will commence on Thursday, October 18, 1860, and will be continued until the 1st of March.

The Dissecting rooms for the study of practical Anatomy, will be open from the commencement of October.

The Museum of the Institution has been made very attractive by late receipts from France and Germany.

The College building is in complete order, the east wing having been entirely completed.

## FACULTY:

S. M. SMITH, M.D.,

Professor of Theory and Practice.

FRANCIS CARTER, M.D.,

Professor of Obstetrics, and Diseases of Women and Children.

J. W. HAMILTON, M.D.,

Professor of Surgery.

JOHN DAWSON, M.D.,

Professor of General and Special Anatomy and Physiology.

S. LOVING, M.D.,

Professor of Materia Medica, Therapeutics and Medical Jurisprudence.

THEO G. WORMLEY, M.D.,

Professor of Chemistry.

R. N. BARR, M.D.,

Demonstrator of Anatomy.

## F E E S :

Tickets of all the Professors, . . . . .	\$60 00
Matriculation Ticket, paid but once, . . . . .	5 00
Graduation Fee, . . . . .	20 00

Subjects for dissection in the building, furnished at a moderate expense, on application to the Demonstrator of Anatomy, *and in no other way.*

There are two extensive Bookstores in Columbus, at which Medical works in great variety are sold at very low rates. Surgical, Obstetrical, and Dissecting instruments are readily obtained.

All letters of inquiry will receive prompt attention, if addressed to any member of the Faculty, or to S. M. SMITH, *Dean.*



# OHIO MEDICAL AND SURGICAL JOURNAL.

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## Original Communications.



*Notes on some of the Chemical Reactions of Solanine.* By T. G. WORMLEY, M.D.

The solanine used in the following experiments was a very loose white powder, with a slight grayish cast, prepared and obtained direct from E. Merck, of Darmstadt. When examined by the microscope, it consisted of small crystalline laminæ and scales, and a small portion of amorphous matter.

The alkaloid was dissolved by the aid of sulphuric acid, and the reagents applied to a grain measure of the solution, contained upon a glass slide, or in a watch crystal.

### 1. POTASH.

1.  $\frac{1}{100}$ th, grain of solanine in one grain of water, gives with a very small quantity of potash solution, a copious white gelatinous precipitate, which is very readily soluble in excess of the reagent. In applying the reagent it is very necessary that the proper quantity be used: if there is slight excess, there will be little or no precipitate.

If 10 grain measures of the solution, contained in a small test tube, be acted upon by the proper quantity of reagent, the whole

mass becomes so gelatinous that the tube may be inverted without its flowing out.

2.  $\frac{1}{5000}$ th, when the least possible quantity of reagent is used, gives a slight cloudiness.

## 2. AMMONIA.

1.  $\frac{1}{1000}$ th, gives with this reagent, a copious gelatinous mass, more copious than by potash, and not so readily soluble in excess.

2.  $\frac{1}{5000}$ th, gives a quite good flocculent precipitate, not very readily soluble in excess.

3.  $\frac{1}{10000}$ th, a very satisfactory cloudiness, but no distinct deposit.

4.  $\frac{1}{25000}$ th, gives a just perceptible cloud.

## 3. CARBONATE OF POTASH.

1.  $\frac{1}{1000}$ th, when there is not large excess of reagent, gives a very copious gelatinous mass, not nearly so readily soluble in excess of reagent as when potash is used; with excess of reagent, there is a pretty good cloudiness.

2.  $\frac{1}{5000}$ th, a quite good flocculent precipitate.

3.  $\frac{1}{10000}$ th, gives in a little time a quite satisfactory cloudiness.

4.  $\frac{1}{25000}$ th, after a little time a distinct cloudiness, better than by the previous reagent.

## 4. CARBONATE OF AMMONIA.

1.  $\frac{1}{1000}$ th, gives a copious gelatinous mass, soluble in excess of reagent, but not so readily as by either of the previous reagents; with an excess of reagent, it gives a very good cloudiness. Of the above four reagents, the last gives the best results, next carbonate of potash, then ammonia, and lastly potash.

If the above precipitate be acted upon by two or three drops of concentrated sulphuric acid, it immediately dissolves with a yellow color, and gives a colorless solution, from which a precipitate very soon begins to separate, and the solution acquires an orange tint; the precipitate increases, and soon the mixture assumes a good orange color, then a bright red, and ultimately a violet pink, which is permanent for some time, then slowly fades, and the precipitate changes to a dirty white. With a larger quantity of sulphuric acid the change of colors is not so good.

The action of sulphuric acid is much the same, upon the precipi-

tates produced by the three previous reagents, but not quite so good, especially with the precipitate produced by potash.

2.  $\frac{1}{5000}$ th, a very good gelatinous precipitate, which after a little time becomes almost a mass; not readily soluble in excess.

The addition of two or three drops of sulphuric acid dissolves the precipitate with a decided yellow color; this is followed by a slight precipitate, and the mixture changes to a pinkish yellow.

3.  $\frac{1}{10000}$ th, a quite satisfactory cloudiness, which after a little time gathers into little flocks. A few drops of sulphuric acid gives a just perceptible greenish-yellow tint.

4.  $\frac{1}{25000}$ th, with a very small quantity of reagent, an immediate cloudiness, which after a little time collects into quite perceptible flocks.

5.  $\frac{1}{50000}$ th, after a little time, a slight cloudiness, which finally forms perceptible flocks.

Oxalate of ammonia, phosphate and borate of soda, give much the same reactions as the above reagents.

#### 5. CHROMATE OF POTASH.

1.  $\frac{1}{1000}$ th, gives a rather copious bright yellow flocculent precipitate, insoluble in excess, but readily soluble in a few drops of sulphuric acid, with a clear solution, which after a little time assumes a distinct bluish, or greenish blue tint. The acid develops none of the colors seen when acting upon the precipitate produced by any of the former reagents.

2.  $\frac{1}{5000}$ th, immediately a precipitate begins, and in a little time there is a quite good yellow deposit.

3.  $\frac{1}{10000}$ th, after a little time a cloudiness, which becomes a quite fair flocculent yellow precipitate.

4.  $\frac{1}{25000}$ th, after a time a few little flocks.

Bichromate of potash gave no precipitate in a  $\frac{1}{1000}$ th solution of solanine.

#### 6. CARBOZOTIC ACID.

1.  $\frac{1}{1000}$ th, with an alcoholic solution of the reagent, gives a very good yellow gelatinous precipitate, readily soluble in excess.

2.  $\frac{1}{5000}$ th, a quite good yellow flocculent precipitate.

3.  $\frac{1}{10000}$ th, gives a quite fair cloudiness.



## 7. TANNIC ACID.

1.  $\frac{1}{1000}$ th, a pretty good flocculent precipitate, which when allowed to evaporate spontaneously gives a gummy amorphous residue.

2.  $\frac{1}{500}$ th, a pretty fair cloudiness.

3.  $\frac{1}{1000}$ th, gives a quite satisfactory cloudiness.

## 8. BROMINE IN BROMOHYDRIC ACID.

1.  $\frac{1}{1000}$ th, a copious amorphous precipitate most of which is bright yellow, a part however being orange yellow; after a time the precipitate changes to a dirty white, and slowly dissolves.

2.  $\frac{1}{1000}$ th, a good yellow precipitate which slowly fades to a dirty white and dissolves.

3.  $\frac{1}{500}$ th, a quite perceptible cloudiness.

## 9. IODINE IN IODIDE OF POTASSIUM.

1.  $\frac{1}{1000}$ th, gives a bright brown orange precipitate and solution, unchanged by sulphuric acid, but readily soluble and discharged by potash solution, followed by a small, dirty white precipitate.

2.  $\frac{1}{500}$ th, a bright red orange solution and slight precipitate.

3.  $\frac{1}{1000}$ th, a deep orange solution, with trace of precipitate.

4.  $\frac{1}{500}$ th, a yellow brown solution.

The reaction of iodine with solanine has been regarded as quite characteristic of this alkaloid, but it must be remembered that the reagent gives a brown or reddish brown precipitate with many of the alkaloids. It is true, however, that the tint in this case is quite different from that produced in other alkaloids, and an experienced eye would readily detect the difference.

None of the following reagents will give a precipitate with a  $\frac{1}{1000}$ th solution of the alkaloid: sulphocyanide of potassium, ferro nor ferricyanide of potassium, the chlorides of gold, platinum and palladium, iodide of potassium, nitrate of silver, sesquichloride of iron, nor chromic acid.

## 10. SULPHURIC ACID.

If a very small quantity of solanine be added to a few drops of concentrated sulphuric acid, the alkaloid immediately becomes orange, and dissolves, giving a solution of the same color; however the color and reaction is much controlled by quantity and other

circumstances. This is the most characteristic test that we possess at present for the identification of solanine.

1.  $\frac{1}{1000}$ th grain of solanine in one grain of water, when mixed with a few drops of sulphuric acid, the mixture immediately becomes yellow, and a precipitate begins to form, this soon increases, and the mixture becomes orange, then changes to violet pink; this color remains for some time, then slowly fades, and the precipitate becomes dirty white. If the mixture is heated the change of color is brought about more rapidly but they are not so bright.

If the precipitate which separates from the sulphuric acid is the *solanidine* of MM. Zwenger and Kind, we failed to obtain it in a crystalline form; it is true, however, the mixture was not boiled, except in a few cases. The peculiar and disagreeable nauseous odor observed by M. Wackenroder, was also observed in a number of instances when acting upon solanine with sulphuric acid.

If a grain of a  $\frac{1}{1000}$ th solution of the alkaloid in sulphuric acid, be evaporated to dryness in a water bath, it leaves a glassy ring of residue destitute of any distinct crystals, the inner margin having a fine purple color. If this deposit be acted upon by a few drops of sulphuric acid, it immediately becomes yellow, and undergoes the same changes as detailed above.

2.  $\frac{1}{500}$ th in solution, when acted upon by a few drops of sulphuric acid, the mixture soon becomes yellow, changing to dull orange, and then slight pinkish, with a slight precipitate. If the  $\frac{1}{500}$ th solanine solution be evaporated to dryness, it leaves a transparent amorphous residue, which when acted upon by sulphuric acid changes as above.

3.  $\frac{1}{1000}$ th, in solution, gives after a little time, with a few drops of sulphuric acid, a faint yellow tinge, which becomes yellow, then slightly orange, then decided orange.  $\frac{1}{1000}$ th, dry, with one or two drops of sulphuric acid, becomes a decided orange, and dissolves with a yellow or brownish yellow solution.

4.  $\frac{1}{5000}$ th, with a few drops of the acid, after a few minutes a faint straw color, becoming more yellow.  $\frac{1}{5000}$ th, dry, gives a quite good deposit, which when acted upon by a small drop of the acid, becomes decided orange, and soon dissolves with a good yellow solution.

5.  $\frac{1}{10000}$ th, after some time a quite perceptible straw tint.  $\frac{1}{10000}$ th, dry, if a small drop of the acid be allowed to flow over the deposit, it becomes a distinct brownish tint, and dissolves with a decided yellow tint.

6.  $\frac{1}{50000}$ th, when evaporated to dryness, left a quite decided transparent deposit, which when touched with a very small drop of acid, gave a perceptible brownish color, and dissolved with a solution which appeared colorless.

If a solution of solanine in sulphuric acid, have stirred in it a small crystal of bichromate or nitrate of potash, the mixture undergoes about the same change as with sulphuric acid alone.

### 11. NITRIC ACID.

1.  $\frac{1}{100}$ th grain of solanine, when acted upon by a few drops of nitric acid, dissolves with a clear solution, which soon changes to a faint rose red, this becomes somewhat more distinct, but not very strong, the color then fades. We did not find that the vapor of ammonia improved the color. If the nitric acid solution have added to it a drop of chloride of tin solution, it undergoes no change of color.

2.  $\frac{1}{500}$ th, after a time, a very faint tint, not satisfactory.

### 12. SOLUBILITY.

1. *In Chloroform*.—1 grain of solanine was frequently agitated during several hours, with 200 grains of chloroform; upon agitation the alkaloid would diffuse itself through the liquid, but immediately upon reposing float upon the surface. The mixture rapidly filtered, and 120 grains of the filtrate evaporated to dryness at a low temperature, left a slight cloudy residue, which was inappreciable to a balance capable of turning with .0025 grain. The residue when touched with a small drop of sulphuric acid, gave about the same reaction as .001 grain of solanine; it would therefore seem that the alkaloid required about 100,000 times its weight of chloroform to dissolve it. It is possible that this small quantity escaped mechanically through the filter.

Experiments were also made, by dissolving a salt of solanine in water, and decomposing the salt with an acid, then agitating the mixture with several volumes of chloroform. The results were, however, the same as above.

2. *Ether*.—The same experiments were made with this liquid with about the same results, if any difference, the ether seemed to dissolve the most, however the quantity dissolved was not an appreciable weight.

The alkaloid dissolves very readily in alcohol, which upon spontaneous evaporation leaves it in beautiful crystalline silken tufts.

COLUMBUS, O., Oct., 15, 1860.



*Strychnia and the Treatment of its poisonous effects.* By WM. A. BROWN, McConnellsville, Ohio.

The products of the two species of the genus *Strychnos*, the *Strychnos Nux Vomica*, and *S. Ignatia*, are about identical in character, the active principles being the same—strychnia, brucia, and igasuria, the latter having been recently discovered. The physiological effects depend principally upon strychnia, to which their therapeutic value is mainly due. This has been found to exist in much greater abundance in the bean of *St. Ignatius*; the per centage being, for *Nux Vomica*, 0.4, and for the bean of *St. Ignatius* 1.2, (Wood). But the former is the article most commonly used in medicine. The effects on man, in small and repeated doses, are those of the ordinary bitter tonics; increasing the appetite and hastening digestion. But it has more in its favor than other vegetable tonics, from its peculiar action on the nervous system, with reference to which, more particularly, it is used. In conditions of general nervous debility and insufficient innervation in those organs dependant for their due supply of nervous force on the spinal marrow, for it is essentially a spinal stimulant, and in functional defect of nervous power, it will be found of immense value. Pyrosis, gastrodynia, constipation, and flatulence from torpor, enteralgia and nervous colic, atonic diarrhoea and dysentery, impotence and spermatorrhoea have been permanently cured by it. Its stimulant influence on the nervous centres, developing an increased exercise of their functions, renders it useful in spasmodic asthma, chorea, tic dolereaux, headache, mental dejection, hypochondria, and has been used with asserted advantage in epilepsy. As a spinal and sensorial stimulant it is used in paralytic affections of function merely, without organic disease or injury of the centres—as in incontinence of urine from palsy of the sphincter muscles, and in loss of taste, smell, and in deafness it may be used with hope of advantage. I have seen functional aphonia of long standing, and obstinate dyspeptic symptoms yield immediately to its influence after having resisted various modes of treatment. In paralytic affections, consideration must always be given to the causes of these complaints, as if used too soon after palsies from inflammation and hemorrhage of course the trouble would only be increased.

But it is the poisonous effects of this drug, we wish more particularly to consider in this place, and the rational treatment for obviating the fatal issue. It is known that in doses beyond its tonic and stimulant effects it becomes destructive to life. The quantity, however, in which it is poisonous is variable and uncertain, according to individual idiosyncrasies; the susceptibility to its influence differing greatly in different individuals. Fifteen grains of powdered nux vomica are said to have proved fatal, yet recoveries are reported to have taken place after more than an ounce had been taken. "The poisonous dose of nux vomica will probably exceed a drachm," (Wood). The bean of St. Ignatius containing three times as much strychnia will be in an equal degree more poisonous, in the same quantities. The smallest quantity of strychnia known to have caused death is half a grain. Dr. Denig, of Columbus, reports a case in this Journal (November, 1858, p. 100,) of a recovery after a grain had been taken, and recoveries have taken place after much more had been swallowed. In a half an hour or more after a poisonous dose of strychnia has been taken, the patient is attacked with spasms which come on like electric shocks, and last from one-half to two or three minutes; affecting the muscles of the back, producing complete opisthotonos, and the muscles of the extremities which are straight and inflexible, and the toes and fingers generally flexed—muscles hard and solid during the continuance of the spasm. The patient has no control over his muscles, and if seized while standing will fall to the floor, and during the paroxysm will frequently perform muscular feats which no effort in health would enable him to accomplish. A sudden noise, puff of wind, or drop of cold water is sufficient to induce an attack, and any movement of the limbs will produce a trembling and shivering of the muscles which may be felt vibrating under the hand. Intelligence frequently perfect throughout, but in some cases there is complete insensibility—the pupils sometimes dilated, sometimes contracted. In some cases the jaws are immovably fixed as in trismus. Respiration and circulation, at the commencement, are not always affected in the same manner; being sometimes increased, sometimes diminished.

In the treatment the first thing which should be sought to be accomplished is to empty the stomach as soon as possible by an active and prompt emetic, and nothing will be found better for the purpose than sulph. zinc and Ipecacuanha. Substances have been

proposed as antidotes to strychnia on the ground that they render the poison insoluble, but they are not reliable. Animal charcoal would seem to stand at the head of this class of remedies from the experiments of Dr. Garrod and others. But neither the evacuation of the stomach nor the administration of absorbent substances, will obviate the effect of that portion taken into the circulation. And we must look to the *Materia Medica* for antidotal substances with reference to their physiological action on the economy. In selecting these we must consider the pathology of poisoning by strychnia. It has been known for ages, and the direct observation of every succeeding generation confirms the fact, that certain specified substances taken into the system produce certain peculiar changes and effects indicative of their action, which are *cet. par.* constant in character. Thus we know that Musk, Valerian, Coffee, Tea, are general nervous stimulants; that Opium, Hemp, Hyosciamus, &c., are cerebral stimulants; and that *Strychnos Nux Vomica* is essentially a spinal stimulant. Each of these may prove poisonous when administered or taken in doses beyond their remedial and salutary action; a mysterious property, inherent of drugs, and the endowment of the different parts of the living structure with certain susceptibilities, by which, when the two are brought together, certain changes in action are developed. Of the nature of the intimate mode of action we will be "*nearer the truth to confess our ignorance,*" says Trousseau. The *effect* of this disturbance of harmony in the normal relations of the nervous system, is analogous to a sanguineous congestion or local determination to a visceral organ under a specific stimulus. Poisoning by strychnia is active congestion of nerve fluid in the spinal marrow, which is at first stimulated into an increased exercise of function, and finally overwhelmed and disabled, and death ensues. It is an established physiological law that there is a limited amount of blood and of nervous power. And the accumulation of one or the other in any part of the economy is at the expense of all other organs, the supply due to which is diminished; and the organ where the accumulation occurs fails under the excess, and through the failure of exercise of its proper functions there is a suspension of all vital processes. This is the case with the spinal marrow under poisonous doses of strychnia, which induces an active determination of nerve fluid, and it is rendered in consequence of the excess, incapable of performing its peculiar offices in the economy,



and the patient succumbs. Granting these premises we are guided to the rational treatment of persons under the poisonous influence of this drug, and can render philosophic explanation of the generally successful issue in those cases where the proper indication for medication has been fulfilled whether from reason or accident. After the preliminary treatment of evacuating the stomach to insure the removal of any unabsorbed portion of the poison, no time should be lost in the immediate administration of cerebral and general nervous stimulants. The patient may be found to resist the action of these in doses that would be injurious in health, and they should be given freely and continuously; a very excellent combination will be,

R. Camphor.

Assafoetida ää grs. v.

Say every half hour.

And this might be improved by the addition of a little Acetate or sulphate of Morphia; and if necessary may be given in much larger doses. We thus go upon the *revulsive* plan, by administering substances whose characteristic action is in other parts of the nervous system, calling off the excitement from the spinal marrow, equalizing the distribution of nerve fluid, and in all probability we save the patient if the vital powers are not so far prostrated as to render the absorption of medicines impossible, or the determination so active under very large doses of strychnia, that other nervous stimulants will not act with any force from the greater power of action of the strychnia. We must give nervous stimulants of sufficient power and in sufficient quantity to produce an impression sufficient to restrain the active determination to the spinal marrow—and if this can be affected our desired result is probably attained. On the same principle opium is remarked as an antidote to the poisoning of Belladonna, by spending its force on a different part of the brain.

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### *Diphtheria.*

PROF. HAMILTON.—Believing that anything connected with the subject of Diphtheria will interest your readers, I am induced to furnish you with a brief account of it as it has appeared in this vicinity. In doing so, I intend to take up but little of your space

with a detail of symptoms, etc., already familiar to all readers of medical journals for the last two years, but wish, more particularly, to point out certain differences between the cases coming under my observation and those of several of your contributors.

The first case occurring here was early in June. Since then I have met with probably thirty cases, and the disease is still prevailing. It has not been confined to young children; on the contrary, a majority of the cases have been over ten years of age. The oldest patient I have had in whom the membrane was well formed, was twenty-one years of age; although I have met with several of middle age, in whom the constitutional symptoms, congestion of the fauces, and peculiar fetor of the breath, were well marked. In three large families of children, in which there were nursing children, it is a little remarkable that the infants alone should escape. The mode of attack has been very similar in all the cases, however much they may have differed in their course and termination. A great majority of the cases had had slight sore throat for some days or weeks, and always attributed the real attack to some exposure "bringing back the sore throat." Chilliness, fever, pain in the head and back, and nausea or vomiting, with soreness of the throat, mark the period of invasion. The febrile excitement and headache, nausea, &c., subside on the second or third day, leaving nothing alarming in the general appearance of the patient. The pulse is nearly natural in frequency but readily excited by slight exertion, tongue moist and but slightly coated, skin cool and moist, bowels constipated, fecal discharges quite healthy in appearance, and, in short, nothing in general symptoms to excite alarm. In but one case have I met with the typhoid symptoms so generally mentioned by writers on this disease. On examining the throat the first day, nothing is seen differing at all from an ordinary angina. The mucous membrane is congested, and there may be some enlargement of the tonsils, and there is always a peculiar fetor, if not discovered on the breath it will be found sticking to the spatula. On the second or third day the membrane appears, and what is a matter of no importance, perhaps, and yet is a little singular, it has in every case selected the right tonsil for its point of attack, and from it extends into the fauces, nasal cavities, upon the mould and roof of the uvula, and in some cases invades the larynx and trachea. The membrane has varied very much in appearance, though generally it has been of a

yellow color. It has varied in thickness from the thinnest possible film to a quarter of an inch thick; has in some cases well defined edges of an eighth of an inch thick, and in others seems to be gradually lost upon the mucous membrane. In one case it was perfectly transparent, so that I was only able to determine its anterior limits by detaching it with the forceps. In every case there is an almost intolerable fetor. The membrane continues present from four to fourteen days. In many cases there is great swelling of the tonsils and external glands of the neck, and in others there is no considerable tumefaction of either.

One peculiarity I met with in two cases, that I do not remember to have seen mentioned by any writer, viz: a bronzed or crisped appearance of the skin of the neck, coming on about the fifth day and continuing for several days. In the first case I saw of this, it was so well marked that the nurse insisted that it was caused by the sinapisms we had been using, which I thought probable myself at first, but it spread all over the chest and looked exactly as though the delicate skin had been exposed to a hot sun long enough to produce partial vesication. In the second case the appearance was not so well marked, resembling more an ordinary browning from the sun. Both these patients were young ladies with very delicate skins, which made the appearance more striking. In many cases I found an abundant crop of sudamina covering the throat and chest. I might mention here, that in one case in which I applied a blister around the throat, the denuded surface was speedily covered with a thick yellow membrane exactly like that in the fauces.

But it is after all traces of the membrane has disappeared from the throat and convalescence seems fairly established that the most remarkable symptoms appear. As no mention is made of the condition I allude to by any of your contributors, I suppose none of them have met with it. I am glad that such cases are rare, for these secondary symptoms are the most frightful feature of this truly formidable disease.

I will illustrate this by a case. The first case I saw was a girl aged fifteen years. She was the only patient I have had in whom the typhoid symptoms spoken of by authorities were present. In ten days from my first visit I discharged her as well. The fauces had recovered the natural condition, appetite was restored and everything indicated a speedy return to vigorous health. During the next week I heard from her frequently, that she was doing



well, was out of bed and assisting a little in the duties of the household. Ten days from my last visit, in passing the house, I called to see her, found her up about the house, but was struck with the death like pallor of her face and the bloodless condition of her lips and mouth. Said she had had some trouble with pains in her stomach and bowels for some days, but felt very well otherwise. That night the family retired as usual, the girl resting well until nearly daylight, when she awakened her father by vomiting. She vomited two or three times and had as many evacuations from the bowels, and complained of irregular pains in the bowels. I was called at 7 o'clock, A. M. Found her extremities entirely cold, the skin of her hands shrivelled as if long immersed in water, features shrunken, pulse extinct, intellect unimpaired and with sufficient muscular power to get up and walk. She died in half an hour after my arrival. This is the only case I have met with in which death occurred in this manner. In two other cases, however, exactly the same train of symptoms have followed the partial convalescence. For a week or two after the throat difficulty had disappeared, everything seemed to be going on desirably, when suddenly the most extreme anemia supervened, the lips and mouth were bloodless, the pulse more hurried than in the first week, patients were dull and languid, disposed to sleep a great deal, and complained of pains in the stomach and bowels. In connection with this anemic condition occurred a variety of nervous symptoms. Deglutition became more difficult, and articulation was more imperfect, depending, doubtless, upon paralysis of the muscles concerned. Following soon afterwards was a feeling of numbness, commencing in one case in the lips and cheeks, and extending gradually over the whole body, accompanied by partial loss of motion in the lower extremities; and in the other confined to the hands, alternating from one to the other.

I have had but three fatal cases, the first of which was the one mentioned above. The second was a boy ten years of age, son of Esq. Kilgore, of Brown township, Franklin county, whose family suffered more from the disease than any other in the neighborhood. I was at the house when the boy came in from his work in the field, complaining, as had all the other cases. I examined his throat immediately, and found a band of the membrane stretched across the slightly enlarged right tonsil, looking very much as though the mucus membrane had been lightly touched with creosote.

This was the only case in which the membrane appeared so early. There was nothing unusual in his general or local symptoms, only that there was rather more external swelling and drowsiness than in the other cases. The membrane covered the fauces, about half of the roof of the mouth, spread into the nasal passages, and was remarkably transparent. For the first four days he seemed as likely to recover as had any of the other cases. On visiting him on the fifth day, I found his extremities quite cold, pulse very slow and feeble, very drowsy, and the breathing quite labored. His strength was but little impaired; got out of bed several times during the afternoon, and walked about the room, and wished to go to the pump for a drink not five minutes before he died. After dozing a few minutes he very suddenly sprang up in bed as if choked, and fell back dead. The third fatal case was a little girl, seven years of age, died from secondary croup, on the seventh day of the disease, and in thirty hours after the croup symptoms came on.

Of treatment I have but little to say, only that it has been unsatisfactory. Not that the proportion of fatal cases has been very great, but the little effect of remedies in checking the progress and altering the course of the disease, and the same results following the most widely different treatment, or where no medication at all was adopted, leads me to doubt somewhat whether we should claim much credit for our remedies in Diphtheritis.

My treatment has been cathartics or emetico-cathartics in the commencement, and the use of chlorate of potash, muriated tinct. of iron, and quinine. In the first few cases I met with, I gave calomel and ippecacuana to produce free vomiting and catharsis. Later I used the compound cath. pills as a cathartic, and for the past few weeks have given the saline cathartics in the first few days of the disease. Local treatment has been varied, as some new idea would occur to me. From the almost universal credit given nitrate of silver in this disease, I expected great benefit from its use, but I have been badly disappointed with it, and have thrown it aside entirely. It will neither prevent the spread of the membrane, nor its reproduction when it has been removed mechanically. In several cases I removed the membrane very carefully every day with forceps, and applied the nitrate of silver solution, in strength varying from ten to sixty grs. to the oz. of water, and continued it until I became satisfied that it was of no benefit. Borate and carbonate of soda, common salt, act. plumbi, sul. zinc,

etc., etc., were tried in different cases, and all with the same result, viz: that the membrane was undisturbed in its progress by any of them. Tannic acid in solution, and used as a gargle, seemed to be useful in the latter stage of the disease, when the membrane was disappearing, in restoring tone to the weakened mucus membrane. For the last several cases I have treated, I have given the saline cathartics, chlorate of potash, muriated tinct. of iron, and quinine, and contented myself with letting the membrane alone, only using as a gargle a weak solution of muriated tinct. of iron, and a solution of chlorate of potash, the latter having the positive merit of lessening the fetor at least. Where there is painful tumefaction of the external glands, I apply tinct. camphor or a camphorated liniment.

If treatment in the early or membranous stage of the disease is unsatisfactory, it is equally so later, when the anemia, paralysis, and extreme debility seem so imperatively to demand treatment. For the last two months I have had cases on the constant use of chalybeates, quinine, Hall's solution of strychnia, and generous diet; have kept up counter irritation along the spine, have enjoined regular exercise in the open air, and have surrounded the patients with all the circumstances calculated to improve the general health, but the degree of improvement has not been very encouraging. For some days at a time the improvement will seem to be well marked, when without any apparent cause, the pallor, numbness, debility, &c., will return again to discourage the patient and physician.

I will say, in concluding this too lengthy letter, that the disease does not seem to have been contagious here. It has been scattered over a country of several square miles, and a majority of the cases could be traced to no connection or association with others having the disease. In some of the worst cases, I was in the habit daily of removing the membrane from the throat, a proceeding which subjected me to the necessity of inhaling the fetid breath, and frequently having my face and eyes completely sprinkled with the detached membrane and foul secretions from the fauces of the patients; but I have escaped every symptom of the disease.

Very truly yours,

J. N. BEACH.

WEST JEFFERSON, *Madison Co., O.*, Sept. 24, 1860.



*Marriages of Consanguinity.* Abstract of the Report of Prof. S. M. BEMISS, with remarks, by A. D. LORD, M.D.

The influence of the intermarriage of relatives upon offspring has attracted more or less attention from physicians, and especially from those connected with Institutions for mutes, blind, insane and idiots, for some years past; public attention has also occasionally been called to the subject in various ways; but we are indebted for the statistics of a large number of cases, to Prof. S. M. Bemiss, M.D., of Louisville, Ky., who, as chairman of a committee, presented an elaborate report on the subject to the American Medical Association, in 1858.

The writer of this article, having had opportunity to observe the relations of such marriages to the class of persons with which he is connected, and being desirous to bring the subject before the physicians of this State, and supposing that many of them may not have examined Prof. Bemiss' report, has prepared the following abstract.

The report presents the statistics of 873 marriages of parties related in different degrees: these are furnished from 25 different States (including all in the Union except Rhode Island, Florida, Louisiana, Texas, California, Minnesota, and Iowa), and the tables include the following particulars: the temperament, health, habits and occupation of the parties, their age at marriage, the number and sex of their children, the number who were defective—deaf and dumb, blind, idiotic, insane, epileptic, or scrofulous; those who died young, with their age, and the cause of death; and other facts in regard to mental peculiarities or bodily deformities.

Of these the author speaks as follows:

“The statistics have been furnished exclusively by reputable physicians in the various States to which they are credited.

“Contributors have been particularly requested to furnish, without prejudice or selection, all instances of marriages of consanguinity within their various circles of observation, whatever their results.

“That these observations might be more readily studied, they have been arranged upon the tables in classes corresponding with their estimated grades of relationship, as follows:

CLASSES.	DEGREE OF RELATIONSHIP OF PARTIES.	
A.	Brother and sister, or parent and child.....	10
B.	Uncle and niece, or aunt and nephew.....	12
C.	Blood relations, themselves descendants of blood relations.....	61
D.	Double first cousins.....	27
E.	First cousins.....	600
F.	Second cousins.....	120
G.	Third cousins.....	13
H.	Cases irregularly reported, all first cousins.....	30
Total.....		873

"I have arbitrarily fixed twenty-two years as the extreme average length of time married women continue to produce in this country; consequently, all marriages set down upon these tables as having occurred before 1835, are supposed to be complete in their results, so far as it regards reproduction.

"In regard to constitutional predisposition, and peculiarities of parents, the tables present some interesting facts. It will be perceived that parental infirmities are entailed with great certainty upon the offspring, and this, in the opinion of the reporter, constitutes the strongest argument against the intermarriage of relatives; the fact that family peculiarities, tendencies and infirmities, either of mind or body, which may be so slight on the part of parents as to remain latent, become so exaggerated by this 'intensifying' of the same blood, that they are in the child ruinous defects.

"Observation will show that the numbers in the column marked 'defective,' underrate the sum of defects occurring to the offspring, since in very many instances, where children have died young, these defects have escaped the attention of contributors, and often, perhaps, that of the parents. This remark would hold especially true of congenital deaf-muteism and idiocy, either of which may exist unsuspected in very early infancy. It is not only a natural inference that many deaf and dumb, and idiotic children of these marriages have died without being reported as laboring under these defects, but the supposition finds complete corroboration in the fact that in classes B and D, in both which the percentage of early deaths is largely over that of any other classes, the percentage of defects is less than we are prepared to expect, and the reduction of mean of defects occurs precisely in the columns assigned to deaf-dumbness and idiocy, but more strikingly in the latter.

"It has been a source of regret to me that the tables require so much space, but every case has been condensed as much as was

compatible with its intelligible presentation. Another inconvenience attending the great compass of the tables is that it will prevent their general diffusion through those circles where it is more important to awaken investigation and impart knowledge in reference to this subject. In some part to obviate this difficulty, I have prepared a table of 'aggregates,' which is an exhibit of the results of the marriages comprised in the tables.

"I have also prepared two tables of comparative results, which, in connection with the table of aggregates, present a condensed exposition of the questions involved in my report. The first of these tables is composed of observations of the results of marriage where no influence of consanguinity prevails. The correspondents who furnished these cases selected them as fair examples of the average results of marriage under similar circumstances, in their various communities. They were chosen without any other restriction or requisition than that the husband and wife should not themselves be related, nor have been the immediate descendants of kindred parents, and that the females should have ceased to ovulate, so that we might know that the results were complete as it regards fecundity.

"The second table is made up in part from a report made to the Secretary of State of Ohio, under an enactment of their Legislature requiring a census of the deaf and dumb, blind, idiotic and insane inhabitants of that State, and the number of each of those classes who were the offspring of marriages between blood relations. This latter clause of the enactment was totally neglected in many of the counties, and in others it seems to have been ill executed, yet this report contains a large amount of information, valuable to my purpose, exhibiting as corroborative statistics a remarkable correspondence with the facts furnished in my collection of cases. To illustrate more perfectly the coincidence between the statistics from these two sources, I have divided the observations of marriages of consanguinity furnished by the Ohio report into classes corresponding as nearly as possible with the classification on my own tables.

"Next this table comprises the results of two hundred marriages from the Ohio report, between the parties to which no ties of consanguinity were supposed to exist, yet each of which had given birth to deaf and dumb, blind, idiotic, or insane issue. These were taken—the first hundred from the commencing pages, and the last



hundred from the concluding pages, without other selection than that the parents should be reported as not related (and from those counties which had returned marriages of cousins), and that the defects of offspring should be congenital. The parties to these marriages were undoubtedly the subjects of some influences tending to the depravation of their issue, and yet a reference to the tables will show that the percentage of defects to their offspring is not so great as among the children of the consanguinity marriages. Lastly, the sum of results of marriage upon the first table of comparative results, is brought to this second table, and the percentage of defects and deaths carefully computed.

“The classes C, D, E, F, G, of the consanguinity tables, comprise 787 marriages of cousins, 246 of which,” (nearly one-third,) “have given issue to deaf and dumb, blind, idiotic, or insane children.

“A very cursory examination of the tables will suffice to show, that *pari-passu* with the increment of the same blood, the sum of defects of the offspring is likewise increased. The increase and diminution of calamities to offspring correspond so closely with the increase and decrease of relationship, as to fix the conviction firmly in the mind of the reporter, that multiplication of the same blood by in-and-in marrying does incontestably lead in the aggregate to the physical and mental depravation of the offspring. And if we admit the above statement, which the observations here presented abundantly prove—that defects of offspring multiply precisely as we multiply the same blood—and to this admission join the fact that all those contingent circumstances of parental health, habits, proclivities of constitution, sexual incongruity, etc., are as liable to affect one class as another, we can not rationally assign these effects to any other influence than that of consanguinity.”

The tables containing the details of the marriages reported occupy 92 octavo pages. For the purpose of giving those readers of the Journal who may not have seen them, an exhibit of the results they exhibit, the table of aggregates, and the comparative tables I. and II., are given entire; and to give a still clearer impression of the fullness of the originals, classes A and B are copied, with the omission of only a few of the items contained in the original tables.

Table of Aggregates.

CLASSES.	CHILDREN.														Marriages.																	
	No. of cases in each class.	Number and Classes.						Per cent. in each Class.																								
		Number.	Males.	Females.	Defective.	D. & Dumb.	Blind.	Idiotic.	Insane.	Epileptic.	Scrofulous.	Deformed.	Died young.	Sterile.		Av. No. of births to each.	Avg No. to married before 1835.	No. of male children to each 100 females.														
A.....	10	31	15	10	29	....	19	..	1	511	..	93.5	..	61	2	4.44	150.															
B.....	12	53	17	14	40	1	3	1	1	1214	2375	401	905	605	601	920	726	443	3	34	41	7.5	121.									
C.....	61	247	113	83	126	10	12	30	3	4	44	9	7051	004	205	1	12	801	201	718	803	826	9	4	4	17	5	6	141.			
D.....	27	154	47	51	42	2	2	4	6	2	10	2	5527	201	201	2	02	503	801	206	301	235	0	..	5	7	6	2	92.			
E.....	600	2,869	1,069	1,041	822	119	64	239	26	44	197	53	665	28	604	202	208	300	901	606	201	923	1	43	4	8	5	96	104	5		
F.....	120	549	255	226	74	9	5	19	1	6	17	9	92	13	501	700	903	400	201	103	101	716	7	8	4	58	5	4	110	9		
G.....	13	71	33	38	18	3	..	2	1	2	10	..	9	25	004	2	..	02	801	502	814	0	..	12	6	..	4	91	5	85	103	4
H.....	30	143	30	41	29	5	..	7	2	..	17	..	12	20	203	4	..	04	801	4	..	..	08	4	1	5	0	..	..	..	..	..
Totals....	873	4,161	1,579	1,504	1,180	149	86	323	40	60	312	98	926	28	303	502	007	701	001	507	502	422	3	59	4	46	..	..	..	..	..	..

The numbers in some of the above classes, and the totals and percentages, have been changed to correspond with the whole numbers given in the details of the several classes.

The isolated observations on the table on the next page are brothers and sisters of parties who have married their kindred, and whose cases are detailed among the statistics in the full report.

TABLE I.—Comparative results of Marriages between parties not previously related, or known to be the descendants of relations.

PARENTS.		CHILDREN.									
No. of observations.	Health, habits, temperament, etc.	Residence.	Number.	Males.	Females.	Defective.	D. & Dumb.	Idiotic.	Epileptic.	Died young.	General condition, etc.
1	Both healthy.	Ky.	6	5	1						All healthy and sprightly.
1	Both healthy; M. bilious; F. sanguine; in easy circumstances.	Ky.	8	3	5	1					The female who died had curved spine; others normal and healthy.
1	M. of good health; sanguine; had three different wives; one feeble, others healthy.	Ky.	12	..	..	..	..	..	..	..	All good looking, intelligent and healthy.
1	Both good health and habits; M. bilious; dark hair and eyes; F. sanguine lymphatic; blue eyes, fair skin and hair	Ky.	8	4	4						All healthy, well-formed and intelligent.
10	These couples were from ordinary circles in life, in and around a small village.	Tenn.	83	38	45						All well-formed, survivors healthy except one who is consumptive.
10	Taken from ordinary circles in and around a flourishing city.	Ind.	71	32	39						Not an instance of physical deformity or mental imbecility among them.
15	Taken from ordinary circles in and around a small town.	Mo.	111	55	56						Survivors well-formed; usually well-endowed.
10	Taken as the preceding, in and around a village.	Ohio	68	40	28						No physical or mental defect among survivors.
15	From ordinary circles in a city.	Wis.	74	42	32						Three of the defective have difficult articulation; one insane.
20	All farmers except two or three.	N. J.	143	86	57	12	3	5			One blind, epileptic and scrofulous survivor.
10	All from the country; mostly farmers.	N. Y.	68	37	31	1	..	..	1		Survivors well-formed and healthy.
10	From ordinary circles in and around a village.	Vt.	59	36	22	..	..	..	..		One survivor had chorea, his father a drunkard; others healthy.
10	From ordinary circles in and around a village.	Vt.	55	26	29	3	..	..	2		One has rachitis; some rather dull; none idiotic.
1	Both good health; M. light hair and blue eyes; F. red hair and blue eyes; good habits.	Ky.	6	2	4	..	..	..	..		All normal and healthy, with bright minds.
10	From ordinary circles near a small interior village; mostly farmers.	Ky.	65	38	27	1	..	1	..		One became insane; none deformed; all arrived at puberty.
			837	444	380	18	3	6	3	134	(Only 1 blind, 1 insane, and 1 scrofulous.)

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TABLE II.—Comparative results from the Ohio Report and other sources.

CLASSIS.	No. of cases.	No of children.	Defective.	Deaf & dumb.	Blind.	Idiotic.	Insane.	Males.	Females.	Av. No. births to each marriage.	Per cent.					Defects congenital.	Defects not congenital.	Defects not known.	No. of males to 100 females.
											D. & d.	Blind.	Idiotic.	Insane.					
A. Parent and child.....	3	3	3	3	3	3	3	1	2	..	100.	.....	.....	.....	3	.....	.....	.....	
B. Uncle and niece.....	1	12	2	2	2	2	.....	1	1	12.	16.6	.....	.....	.....	2	.....	.....	.....	
E. First cousins.....	47	321	84	32	33	5	29	36	6.8	26.1	09.9	04.9	10.2	.....	48	18	18	80	
F. Second cousins.....	28	150	43	13	15	7	21	16	5.3	28.6	08.6	06.6	10.0	.....	19	9	15	131	
C. Third cousins.....	4	35	5	2	1	1	.....	.....	8.2	14.2	05.7	05.7	02.8	02.8	...	...	...	...	
H. Cousins.....	72	500	107	36	39	12	54	36	6.9	21.4	07.2	04.2	07.2	02.4	81	10	16	150	
Totals.....	155	1021	244	83	49	93	25	106	91	6.5	23.9	08.1	04.8	09.1	153	37	49	116	
1st. 100 families.....	100	708	148	52	17	70	9	.....	.....	7.08	20.9	07.3	02.4	09.8	148	.....	.....	.....	
2d. 100 families.....	100	667	119	40	6	67	8	60	55	6.67	16.3	06.	.....	10.0	119	.....	.....	109	
Totals.....	200	1375	267	92	23	137	17	60	55	6.8	19.4	06.6	03.2	09.9	267	.....	.....	109	
125 families not related.....	125	837	18	3	1	6	1	444	380	6.69	02.13	003.4	001.14	007.1	12	3	3	116.8	

CLASS A.—*Instances of Marriage or incest between Brother and Sister, or Parent and Child.*

Cases.	PARENTS.		CHILDREN.					
	Occupation, health, habits, relationship, etc.	When married—age.	Number.	Males.	Females.	Defective.	Idiotic.	Scrofulous.
1	M. Farmer; both of good constitution and habits; half brother and sister.....	1840. M. 21. F. 17.	7	6	1	7	1	..
2	M. Farmer; both healthy and good habits; half brother and sister.....	1840. M. 25.	5	2	3	5	5	3
3	M. half brother to his wife.....	.....	1	..	..	1	..	..
4	Children of same father; M. legitimate, F. illegitimate.	1835.	5	..	..	5	5	..
5	M. not healthy, F. robust; full brother and sister :—incest.....	1837. 1846.	1	..	1	..	..	..
6	Full brother and sister, both finely developed and handsome, with dark hair and eyes, resembling greatly—incest.....	M. 20. F. 14.	1	..	1	..	..	..
7	M. Farmer; children of same father, one legitimate, the other not.....	1835. young.	7	3	4	6	6	..
8	Both good health, full brother and sister—incest.....	1836. young.	1	1	..	1	1	..
9	Both supposed to be healthy, father and daughter—incest.....	1830.	2	2	..	..	..	2
10	M. Lawyer, of excellent health and intellect, and good social position, seduced his grand-daughter, then a model of female beauty and good mental endowments.	1837. F. 17.	1	1	..	1	..	..
			31	15	10	29	19	5
			General condition of children, &c.					
			Six cannot speak so as to be understood except by the family.					
			One, epileptic also.					
			One blue and one black eye.					
			Three complete idiots, the other two imbeciles.					
			Now 20, and is healthy, bright and active.					
			An albino, of delicate constitution, not deficient in mental endowments.					
			Six have 6 fingers on each hand and 6 toes on each foot, and are otherwise "hideously deformed."					
			Now an adult, but a mere pygmy in size.					
			Twins, having pelves resembling females; feeble.					
			His extremities longer than natural, movements lax and swinging, countenance strange, moral proclivities striking and abnormal; now in a poor house.					

CLASS B.—*Marriage or commerce between Uncle and Aunt, or Aunt and Nephew.*

Cases.	PARENTS.		CHILDREN.					
	Occupation, temperament, health, habits, relationship, etc.	When married, age.	Num-ber.	Males.	Fem-les.	Defec-tive.	Died young.	General condition of children, etc.
1	M. farmer; sanguine. F. sanguine; both good constitution and habits. F. was husband's maternal aunt.	1836. M. 27, F. 28.	4	2	2	2	.....	The two defective are males; one is deaf and dumb, blind, an idiot, and deformed. The females are mediocre in intellect.
2	M. farmer. Both bilious, robust constitutions, active, temperate habits. Uncle and niece.	1835. M30, F17	7	4	3	.....	1	Nothing remarkable, except one male is ungainly and awkward.
3	M. bilious; F. nervous. Uncle and niece. Hitherto sterile.	1850. M25, F19	.....	.....	.....	.....	.....	
4	M. laborer; lymphatic, intemperate. F. sanguine. Aunt and nephew.	1830. M20, F30	9	5	4	9	9	All were deformed in hands and feet. Cause of death, marasmus.
5	M. farmer. Both lymphatic. Nephew and aunt.	1822. M22, F24	4	1	3	3	3	Three very much deformed. The one living has curved spine, and is otherwise defective.
6	M. farmer; nervous. F. sanguine. Both good constitution and habits. Uncle and niece.	1827. M. 23.	12	.....	.....	12	.....	One insane, all scrofulous.
7	M. farmer and stone mason. Both bilious, dark skin, hair, and eyes; health good, medium size. Nephew and aunt.	1837. M. 25, F. 30.	.....	.....	.....	.....	.....	
8	Both sanguine, of robust health, now over 70, thin flesh, resemble each other strikingly. Uncle and niece.	1810. Both young.	10	.....	.....	10	8	One was blind; one of the living has spinal curvature; the other at 40 is a mere child in intellect, and dependent on his father and deformed brother for support.
9	Both healthy; never before married. M. aged 65, F. 25.	1849.	.....	.....	.....	.....	.....	
10	Both bilious, excellent health and good habits. Uncle and niece.	1853. Young.	1	1	.....	.....	.....	Healthy appearance, and seems precocious. Had a convulsion at 2½ years of age.
11	M. mariner; nervous, healthy, with active habits. F. leuco-phlegmatic, healthy, but indolent—aunt to husband.	1830. M. 20, F. 30.	3	2	1	3	1	All feeble; one died of typhoid fever, one was blind; the female nyctalopic.
12	Both of good health and habits. Germans.	Young.	3	2	1	1	1	Males healthy; female never walked.
			53	17	14	40	22	1 deaf and dumb, 3 blind, 3 idiotic, 1 insane, 12 scrofulous.



The undersigned is collecting materials for a report on marriages of consanguinity in this State, and will be greatly obliged to any physicians who will communicate a full description of cases which may have come under their observation, or which may have been properly reported to them.

A. D. LORD.

OHIO INST. FOR THE BLIND,

Columbus, Oct., 1860.

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*Interesting Case of Diphtheria, with Post Mortem Appearances.*  
By Drs. N. GAY and W. H. DRURY.

J. B. Aet. 32 years, a man of a full plethoric habit, was attacked with a sore throat on Monday, September 10th, attended with a severe pain in back and head. The patient, thinking it an ordinary sore throat, paid no attention to it until Wednesday, September 12th, when I was called to see him, and found him with a quick and feeble pulse, and very much prostrated; nails blue and cool extremities; he complained of a severe, burning pain in the region of the larynx, pharynx, and posterior nares. On examination, I found the pharynx and anterior pillars of the tonsils and uvula covered with a greyish white membrane, and extending down into the trachea. The parts were swollen, but not so as to interfere with deglutition. Had slight cough, with some difficulty in respiration. I cauterized the throat with a solution of argent nit., grains xx, to the ounce of aqua distil., and gave him a powder of calomel and rhubarb, 10 grains each, to be repeated in four hours, and ordered a stimulating liniment to be applied to the neck, with an occasional pepper tea gargle. The application of the nitrate of silver to the throat gave immediate relief, and the patient rested quite well until near morning, when I was hastily summoned to see him. Found him breathing with difficulty, and bedewed with a cold sweat; skin cold and blue; feeble pulse, and prostrated; gave him brandy sling, and again cauterized the throat, with relief to the patient. Saw him again at 10 A. M.; he had quite a free operation from the bowels; gave him beef tea, brandy and quinine, with chlorate of potash, five grains every four hours. This treatment was continued until Friday morning, when I again used the nitrate of silver to the throat and larynx. In the afternoon, small pieces

of the membrane and dirty sputa were expectorated quite freely. Early on Saturday morning, croup-like symptoms came on. The patient was sinking; skin blue; extremities cold; gave stimulants quite freely, and applied a solution of warm alum water to the throat, with present relief, and left him under the charge of Dr. Drury, who, about 10 o'clock, took away a membrane which was a complete cast of the larynx trachea and the commencement of the two bronchia. This was a pleasant relief to him. The skin again assumed its natural hue. This same treatment was continued with brandy and beef tea freely. Sunday evening he complained of a tightness and a burning sensation in the chest, about the junction of the second rib with the sternum, and said that he could breathe well to that place, but *there* it was shut off.

On Monday morning, the eighth day of his illness, his skin again became blue and dusky. I examined his lungs carefully, and found the vesicular murmur clear and distinct in some portions of the lung, while at other points it was inaudible. The resonance was increased all over the chest; at the root of the lungs the sounds were those of croup, or, as I might say, of many croups. I had thought of performing tracheotomy, but, from the result of my examination, I supposed it would be of no benefit to the patient. The patient was evidently failing rapidly, and at four o'clock Tuesday morning expired.

*Post Mortem.*—On opening the chest, as we cut the ribs from the sternum, the chest sprang open on either side three-fourths of an inch, caused by the distension of the vesicles with air. The lung structure proper was healthy. The larynx and trachea were unobstructed. But, from near the commencement of the bronchial tubes to their smallest ramifications, were deposits of the diphtheritic membrane lining them. Many of the smaller bronchial tubes were completely obstructed. In others the membrane was softening, and would have been discharged if he could have been sustained a few hours longer. The pericardium contained a large quantity of serum. The right auricle and ventricle were filled with coagulated blood.

## American and Foreign Intelligence.

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*Researches upon the Erectile Organs of the Female.* Translated for the Boston Medical and Surgical Journal. By WM. READ. M.D.

*Erection.—Menstruation.*—It is almost superfluous now to remark that a comprehension of the muscular system of the *mesoarium* (ovarian ligament) and the *mesometrium* (broad ligament) results in restoring completely to the type of erectile organs the corpus spongiosum of the uterus and the ovary. Indeed, we have seen that the vessels of the bulb of the ovary and the pampiniform plexus are everywhere interlaced and enveloped by the fibres emanating from the ligament of the ovary and the lumbar ligament; the proper tissue of the uterus incloses by its strong trabecules the canals of the corpus spongiosum, and the efferent sinuses (utero-ovarian plexus) are themselves interlaced by the antero-posterior intersections at the beginning of the great ligaments.

Stronger and more condensed just at the erectile bodies themselves, the muscular fibres become more rare and thinner at the plexus of discharge, an arrangement which exactly corresponds with what we observe in the corpus spongiosum of the penis, and amidst the urethro-prostatic plexus.

In this way the absolute identity of their anatomical constitution, between the corpus spongiosum of the organs of copulation and those of fecundation, allows us upon this basis alone to conclude that they are identical in nature and function; and, if other proof is necessary, have we not, in default of demonstration impossible upon the *living*, the results of experiments on the dead body, which show the possibility of artificially producing erection in those organs which are screened from observation during life, in the same way as in those, the physiological metamorphoses of which it is possible directly to determine?

With the erection of the corpus spongiosum of the uterus, the menstrual hæmorrhage is directly connected.\* It is the uterine

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\* I have found no real erectile systems except in the uterus of the human female, and it is in her alone that we observe a menstrual hæmorrhage. As to the females of the quadrumana (*baboons, dog-headed monkeys*), in whom we find a periodic flow of sanguineous mucus rather than a true hæmorrhage, perhaps we shall find in them some rudiment of that anatomical arrangement peculiar to the human female. I have not had any opportunity to make investigations upon this subject, but have seen that in the bitch, which also frequently shows a periodical flow of mucus more or less tinged with blood, the vascular richness of the parietes of the uterus is nothing more than an outline, very incomplete, of erectile tissue.



mucus membrane which furnishes the sanguineous flow, and it is well known that in those females who have died during menstruation, the body of the uterus is turgid, gorged with blood, and very large; it is at this time also, as I have remarked, that the artificial distension of the vessels determines, in the clearest manner, the changes of form, of volume, and of position, which are characteristic of erection. In a word, erection itself is the result of a muscular spasm which prevents the flow of blood back by the efferent sinuses. But we observe that at the *menstrual period*, the muscular apparatus, by which the corpus cavernosum of the uterus and the ovary are controlled, is in a state of spasmodic contraction, and, guided by the well-established coincidence of ovulation and menstruation, we are able to connect them with each other, and deduce from one single primary cause ovulation, erection of the uterus, and menstruation.

At the time of the periodical ovulation of the *Graafian* vesicles, the adaptation of the Fallopian tube with the ovary precedes the discharge of the vesicle, and we have seen it last eight or ten days after the commencement of the heat.

The fimbriated extremity could not remain so long applied to the surface of the ovary, except in consequence of a state of spasmodic contraction in the muscular apparatus which holds it under its control. But the venous sinuses which traverse the meshes of the interlaced fibres at the umbilicus of the ovary, necessarily undergo there a partial compression, the immediate result of which is the distension and the erection of the bulb of the ovary. This accumulation of blood in the corpus spongiosum, and consequently in all the vessels of the gland, is not, doubtless, without influence upon the evolution of the vesicle, and hastens the maturation of the ovule.

These modifications of the circulation of the ovary have a forced reaction upon that of the uterus; the communications of the uterine plexus with the ovarian veins are so large and so numerous, that the pampiniform plexus should evidently be considered as one of the channels of discharge, and the main one even, of the corpus spongiosum of the uterus. The result of this is that the obstacle to the flow of blood through the canals of this plexus should find in the body of the uterus a condition analogous to that which manifests itself at the bulb of the ovary. The erection of these organs is the forced consequence of the same cause.

It is, moreover, probable that at the period of ovulation the fibres of the mesometrium (broad ligament) which embrace all the veins of the uterine plexus, those which empty themselves into the hypogastric veins as well as those which communicate with the ovarian plexuses, are also under the influence of this excito-motory cause which determines the spasmodic contraction of the ovario-tubal fibres, and that all the channels of discharge of the uterus are in the most favorable conditions for the distension of the corpus spongiosum.

The principal cause of the erection being the same with that which determines the adaptation of the fimbriated extremity to the

ovary, the two phenomena ought to have the same perceptible duration. The increased tension in the erectile formations, being prolonged, finishes by communicating itself, by degrees, to the vessels of the mucous membrane, and to the capillaries which ramify at its surface under a simple layer of epithelial cells; the desquamation of these cells, shortly leaves the thin membrane naked to the origin of the capillaries in the walls; these, too, yield at last, break, and the sanguineous exudation oozes from the surface of the mucous membrane, as long as the erection persists, and as long as the obstacle remains\* to the free flow of blood by the veins.

If the erection of the ovary is not, like that of the uterus, accompanied with hæmorrhage, it is because the tunica albuginea and the stroma also of the ovary, much more resistant than the uterine mucous membrane, do not take on an exaggerated distension of their vessels. In certain abnormal cases, however, the ovarian erection may be the cause of hæmorrhage, and this, doubtless, is the most frequent, if not the sole origin of retro-uterine hæmorrhage. Sometimes the hæmorrhage occurs in the peritoneum, and then, oftenest, has the ovary itself for its point of issue, which, I myself, as well as other observers, have seen englobed in the parietes of a cyst and communicating with the hæmorrhagic focus by a rent in the tunica albuginea.

It is probable enough that in such cases the blood proceeds from the vessels in the pedicle of one of the Graafian vesicles,† or rather

\*Circulation is not interrupted during erection. The arteries, which by their less volume escape the compression which the veins that surround them undergo, continue to convey the blood into the corpus spongiosum, which becomes distended, and the overplus of which only escapes by the channels of discharge, or by the accidental orifices of broken capillaries. According to Debrou, "Gangrene would be the inevitable consequence of an indefinite stasis of the blood. If erection continues a great while, many hours, it is very necessary that as much blood should flow out as enters, in order that gangrene should not supervene. But, if as much blood flows out as enters, in a prolonged erection, it is necessary to admit that it is the same in ordinary turgescence, a proposition which is irreconcilable with all the theories of erection in consequence of a mechanical obstacle to the flow of venous blood." This objection is specious (it means little more than the theory of erection by the action of sexual hearts (Kobelt) escaped there, for this theory is false or exceedingly incomplete); but it is, it appears to me, very easy to refute. When the contraction of the muscular network determines, not complete occlusion, but diminution only of the calibre of the veins, the arteries freely throw into the areolar spaces a quantity of blood, at least equal to that of the ordinary circulation, and more considerable than that which actually flows out by the veins, as long as the distension of the erectile organs lends itself to increase the capacity of the vascular reservoirs. But as soon as the erection has reached its highest limits, the resistance of the parietes and the tension of the liquid in the interior of the corpus cavernosum, no longer permits the arteries to throw in a greater quantity of blood than is exactly equal to what the channels of discharge allow to pass off. This partial circulation being thus spontaneously and forcibly regulated and restored to an equilibrium, continues in this new way as long as the erection lasts.

†In a case reported by Prost (De l'hémorrhagie retro uterine. Theses de Paris, 1854), the origin, the time and the cause of the hæmorrhage also correspond with the subsequent evidence derived from an examination of the parts; I saw, says he, the tumor, formed partly by the ovary, and partly by the tube, very

from a recent corpus luteum, which rupture under the effort of the erectile tension, and offer to the blood, compressed and crowded into the corpus spongiosum, a way by which it escapes in a much more considerable quantity than would have taken place under the ordinary conditions of the circulation.

When the hæmorrhagic focus has its seat in the substance of the broad ligament, it produces during life an accident extremely frequent; and also, when we undertake, by the aid of an injection thrown in by the ovarian veins, to bring on artificial erection of the bulb of the ovary, a rupture of sinuses, having extremely thin walls, in the pampiniform plexus, or in the corpus spongiosum itself.

But what is very important from our point of view is, the well established coincidence\* of hæmorrhages from the ovary, with menstruation, with ovulation, and the spasmodic contraction which determines the application of the fimbriated extremity with the surface of the ovary.

The mechanism for producing these accidental hæmorrhages of the ovary (retro-uterine), is identical with that for the uterine menstrual hæmorrhage, an *accident made normal* in the human female.†

We can now inquire how the evolution of a Graafian vesicle operates to produce the spasmodic contraction of the ovario-tubal muscles, the essential cause of all the phenomena which we have just passed in review.

much dilated and *adherent* to the gland. It is evident that in this instance an attack of phlegmasia, following the hæmorrhage, had fixed the tube and the ovary in that position of adaptation in which they found themselves at the moment of the accident.

\*M. Prof Langier, in his lectures, and in a memoir communicated to the Academy of Sciences (v. Comptes Rendus, 1858), has applied himself particularly to demonstrate this coincidence.

†In order that the erection of the uterus should give rise to a hæmorrhage, certain conditions are necessary, some relating to its duration and others to the intensity of the erection, and consequently to the development also of the erectile formations. If the erection lasts only a short time, or is incomplete, the tension does not exceed the limit of resistance in the vascular walls, and there is no hæmorrhage. This is what often takes place at the commencement of puberty, when the erectile development of the vessels of the uterus not being complete, it is yet too far from the true vessels of the mucous membrane to influence them. Erection at that time manifests itself only by a sense of weight, of tension, and uterine colic (spasmodic muscular contractions), and sometimes a mucous exudation, more or less tinged with blood. This last phenomenon is observed in some females of the mammalia, in whom erectile formations are wanting or altogether rudimentary.

We can in the directest manner observe all these peculiarities in the accidental erectile formations at the lower extremity of the rectum. In the beginning there is often nothing more than distension, and swelling of the hæmorrhoidal tumors without a flow of blood. Then the dilatation gradually reaching the capillaries of the mucous membrane, the spasm which compresses the venous trunks which go in the thickness of the muscular coats, brings on the rupture of the superficial vessels, and after that time the hæmorrhoidal erection is regularly followed by hæmorrhage.



The theory of the act of ovulation, is precisely the same with that of the act of parturition, of vomiting, of micturition, &c., &c., and is generally applicable to the normal play of all the muscular systems of organic life. In the case of parturition, when the ovum has attained the limit of its development, it acts upon the walls of the uterus like a veritable foreign body, and the irritation of the mucous membrane or the muscular envelope itself, transmitted to the ganglionic centres of the great sympathetic and the spinal marrow, is *reflected* back to the muscular system of the uterus and the muscles of the abdominal parietes, which concur in an energetic act for the expulsion of the child; and moreover, when the Graafian vesicle has arrived at a certain degree of development the distension of the true fibres of the *stroma* is the initial point of a *reflex irritation* which propagates itself throughout the muscular system of the internal organs of generation, to the mesoarium and the mesometrium.

The ovario-tubal fibres contract, draw near, and forcibly apply the fimbriated extremity upon the vesicle which protrudes, the veins, compressed in the meshes of the muscular net-work, force the blood to flow back and distend the corpus spongiosum, the vessels of the uterine mucous membrane yield, the menstrual flow establishes itself, and all these phenomena last as long as the stimulus continues to act, as long as the parietes of the vesicle resist the double effort of its contents which are increasing in size, and of the enveloping fibres which react against the distension;\* whilst at last, the expulsion of the ovule restores quiet throughout the whole muscular apparatus, the course of the blood once more becomes free in the sinuses, the distension of the erectile bodies diminishes by degrees, and the hæmorrhage from the mucous membrane of the uterus arrests itself.† Ovi-position is completed by the migration of the ovum through the channel of the tube as far as the uterus, and from thence externally, if impregnation gives no signal for another series of phenomena.

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\*In the scaly reptiles and birds, the muscular fibres of the mesometrium radiate upon the surface of each vesicle and actively concur in retracting it towards the pedicle, like the dehiscence of the calix, the two hemispheres of which separate just at the stigma. The true fibres of the stroma doubtless play an analogous role in the mammalia, and their influence upon the expulsion of the ovule is much more probable, than that of the pretended suction exercised by the fimbriated extremity.

†The interesting observations of Bischoff tend to establish the fact that the liberation of the ovule takes place only at the end of the menstrual period. When impregnation takes place during this period and suddenly suppresses the bloody discharge, it results probably from the fact that the fecundating coitus, by over exciting the whole genital system, brings about a prompt rupture of an ovarian vesicle. It can also occur when any violent emotion suddenly suppresses the muscular contraction and the ovario tubal erection; a collapse identical with what, under the same influence, suddenly puts an end to erection in man. In this case the fimbriated extremity ceases to be applied to the ovary, the ovule falls into the peritoneal cavity, or, if it has not been fecundated, atrophies and disappears, as we have seen in the batrachians; if it has been impregnated, it gives rise to extra-uterine pregnancy.

We believe that the muscular and erectile system of the internal organs of generation, can be called into play, outside the menstrual period, by excitement which has its origin elsewhere than in the ovary.

Sexual excitement is often, doubtless, in the woman restricted to the erectile formations of the bulb and the clitoris; but it ought, when complete, when the venereal orgasm reaches its highest pitch of intensity, to over-ride these limits, and invade the essential organs of the generative function, in which the *special* voluptuous sensation is developed, which announces the accomplishment of the sexual act. *Kobelt*, who places the seat of all the generative, voluptuous sensations in the papillæ of the gland, was wrong in confounding with those sensations, more or less repeated and prolonged, which develop themselves in the mucous membrane of the organ in a passive state, this unique and instantaneous sensation, which in the man accompanies ejaculation, and in the woman manifests itself as the signal for the venereal orgasm.

Most profound, and all-pervading, it predominates over everything, embracing the whole organism, and presents a striking analogy in its characteristics, if not in its essence, to the gloomy sensations developed in the mental organization by the great sympathetic.

It appears, as far as we can judge by observation, very delicate in such a matter, that it is in the perinæal region, among the pelvic organs even, that the shock of the voluptuous paroxysm is felt, that its centre is among the vesiculæ seminales, and at the verumontanum, (*uterus masculinus*, see my *Recherches sur le type des organes genitaux*, 1855), and doubtless in the woman, at the uterus, and that it announces the participation of these organs in the act which the organs of copulation have only prepared for.

If this be so, if the venereal orgasm in the woman has its seat in the internal organs of generation, we understand the rôle which those rich erectile formations ought to play, which so much surpass in their development those of the organs of copulation.

The antagonism evident from the development of the external and internal organs of generation in the two sexes, an antagonism which in the woman is everywhere progressive from the first, joined to the identity of the structure of the corpus cavernosum in both classes of organs, furnishes still another probability greatly in support of the idea that, under the same influences, similar phenomena would there develop themselves.

Erection of the vascular formations of the uterus and the ovary as a consequence of sexual excitement, will explain how. The erection lasting too short a time in this case to exhaust the resistance of the capillaries, and cause a hæmorrhage, is capable, if repeated, of accelerating the return of menstruation, and increasing the duration and quantity of the discharge, as Haller, Burdack, and Parent-Duchatelet have observed in lascivious women and prostitutes, in whom the menstrual flux, sometimes immoderate, could reproduce itself every fifteen days.

Facts observed by M. Coste, relating to the more frequent return of heat in animals in consequence of the cohabitation of the males with the females, and the possibility of impregnation in the human species outside the normal periods of ovulation, also find their explanation in the erection of the bulb of the ovary under the influence of sexual excitement, an erection accompanied by a mechanical congestion of the parenchyma, which would have the effect to determine the maturation of the ovum before the natural term.

The conclusions drawn from the investigations in this essay are :

1st, That in the human female, the body of the uterus presents the structure of an erectile organ, a true corpus spongiosum.

2d, That to the ovary also is annexed an erectile bulb.

3d, That in all classes of vertebrated animals, and particularly in all the mammalia, a special muscular apparatus embraces the oviduct and the ovary, and determines their adaptation.

4th, That the fibres of the ovario-tubal muscular membranes (*mesoarium* and *mesometrium*) have such relations with the corpus spongiosum and especially with their efferent sinuses, that, at the moment of contraction, the meshes of the network, in the midst of which the venous channels run, tightening themselves on all sides, the latter would necessarily find themselves compressed, and the flow of blood more or less obstructed.

5th, That this contraction of the ovario-tubal muscular apparatus lasts through the whole period of ovulation, and the obstacle to the flow of blood, and the erection of the corpus spongiosum of the uterus and the ovary, which is the result of it, have the same duration,

6th, That menstruation also, on the other hand, coinciding with ovulation, it is natural to consider that as the immediate consequence of the uterine erection; a true menstrual hæmorrhage, moreover, not showing itself unless in the place where this organ presents a structure really erectile.

7th, That if sexual excitement can, as appears probable, determine the erection of the uterus and the ovary, it is easy to account for its influence in shortening the periods of menstruation and ovulation.

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*Diphtheritis.* By C. A. HARTMANN, M.D., Cleveland, Ohio.

The disease now generally designated by this name has been brought forward as a new affection, and largely discussed during the last two years, especially in France, England and America. It appears to have been frequently confounded with croup, gangrenous and scarlatinous angina, and other affections of the throat; even Bretonneau, who principally initiated, in 1821, the recent consideration of the disease, did not distinguish it clearly, giving it the names



*diphtherite, croup, angine maligne, angine gangreneuse*, promiscuously. According to him, it is the same with the *Egyptian disease* of the Greeks. Dr. Baird had previously in this country recorded the particulars of an epidemic that occurred in New York, in 1771. He described it under the name of *suffocative angine*. Other older names applied to it are *cynanche maligna, scarlatina anginosa*, (in America often used up to the present day,) *morbus strangulatorius* (Dr. Starr, 1748,) *Fothergill sore throat, throat distemper, malignant sore throat, malignant angina, membranous angina*, etc.

Hippocrates seems to have been acquainted with it, and a very good description is given by Aretæus. Since then there is no record pointing to diphtheritis until the days of Cullen, Huxham, Fothergill, Star, and others, in the second half of the last century; and although they described it as a "new and separate disorder," it fell again into neglect, until more recently the notices of Baird and Bretonneau were followed by a very extensive epidemic appearance of the disease, it spreading, between the years 1818-57, over France, since 1857 over England, and since 1845 over this continent.

Besides the general name, *diphtheritis, diphtherite, diphtheria*, (meaning an exudation in patches,) a large number of designations are found in the works of recent writers. It is the *angina diphtheritica maligna* of Trousseau; *angina couenneuse* of Duche, Bouchut, and other French authors; commonly called *diphtherie*, in French; the *plastic pharyngitis* of Porry; the *membranous disease*, commonly called *membranous croup*, of Cotting; the *hog-skin angina* of Palmer; *diphtheric, membranous, pseudo-membranous, putrid, malignant, and epidemic sore throat, scarlatina, or epidemic angina, malignant cynanche*, of other American physicians. Some call it simply *sore throat*.

Diphtheritis proper is an eminently fatal, mostly epidemic, but not unfrequently sporadic disease, of a very peculiar character, appearing with a great variety of symptoms, but presenting, as general features, a marked prostration of the nervous system, and the formation of a pseudo-membranous exudation, which always commences with patches upon a congested surface, and manifests a particular propensity to attack the mucous membrane of the fauces, spreading downwards and upwards; it is, however, occasionally seen upon other mucous membranes, and even upon the skin. Children suffer particularly, but young persons and adults are not exempted from attacks of the disease.

The symptoms, not only at different times and in different locations, but during the same epidemic and in the same place, are so variable that it is difficult to give a description of them of any general applicability. "In not two cases," says one author, "is there a perfect resemblance, either in the grouping of the symptoms, in their order of succession, or in the degree of their individual symptoms." Some cases commence with fever; in others there is none, or it only appears after some time; there may be a diminished secretion of urine, or not; albuminuria is often present, but frequently

wanting; so it is with headache, difficult respiration, diarrhea. Some of the more constant symptoms are general malaise, impaired deglutition, and a very weak, accelerated pulse. One fact seems to be pretty well established: The statements of Trousseau and others show that the disease since 1846 assumed a more violent and malignant character, entirely different from what it was in the time of Bretonneau.

The last named physician gave the following description: The disease usually commences in one tonsil, seldom in both; slight fever; white spots on the affected tonsil; enlarging of the cervical glands. Redness surrounds the concretion, and it spreads rapidly to the velum palati, uvula, the other tonsil, and the pharynx. The swelling of the lymphatics either subsides or remains stationary. After some hours or days a ringing cough, dry, or accompanied by a frothy expectoration, announces the extension of the disease to the respiratory organs. There are now irregularly-shaped patches of redness, without swelling, coated with a concrete exudation. One or more long, narrow, red streaks extend to the pharynx or trachea; a stripe of concrete matter is seen on the centre of each of these streaks, and small, semi-transparent vesicles often appear in the substance of these incipient concretions. The edges of the pellicle are gradually lost in the surrounding mucus, which is no longer viscid, but coagulated near the concretion. The latter can be easily detached; it is, however, in such case speedily reproduced being now firmly adherent, often several lines thick, and changing its color from a yellowish-white to yellow, gray, and finally to black. The subjacent surface is usually of a slightly red tint, more vivid at the periphery of the patches, and sown all over with points of a deeper red color, through which points the blood readily transudes. Now the alteration of the organic surfaces becomes more manifest; often concrete matter is deposited into the very substance of the mucous membrane; there is a slight erosion, and sometimes echymoses, in points exposed to friction, or from which the avulsion of the concretions has been attempted. The corrupted exudations exhale an infectious odor. If circumscribed, they appear depressed, from the œdematous swelling of the surrounding cellular tissue; if they are, on the contrary, extended over considerable surface, they become partially detached, and hang down in shreds more or less putrefied, simulating the last stage of sphacelus.

Dr. David Wooster, of San Francisco, remarks on this (*Pacific Med. and Surg. Jour.*, May, 1859,) that "no vesicles have ever been observed in the forming concretion on this continent; that here at the incipient state the false membrane adheres most tenaciously, and is not easily detached; that the edges of it shade off so insensibly into the natural aspect of the neighborhood as to render a rigorous definition of its limits impossible; that the centre of the patch is whitish or grayish, and opaque, while its periphery becomes more and more translucent; further, that the affected parts never bleed, except when violence is used to tear or scrape off the false membrane, and then the bleeding stops with remarkable

promptitude, and does not occur again, except on the repetition of the violence." Wooster states, also, that "our false membrane never becomes black; indeed, it is paler after than before death."

According to Dr. W. G. Dias, (*Chic. Med. Jour.*, Oct., 1859, to March, 1860,) there are at least four distinct forms under which the disease may appear:

1. "It may destroy life in a few hours, by a violent and deep impression on the nervous centres, attended by congestion of the internal organs; in this form we may not be able to witness the pseudo-membranous exudation, supposed to be pathognomic of it." There may be, corresponding to occasional violent cases of scarlet fever, "a deadly pallor of the surface, a dusky hue of the countenance, and particularly of the lips, a soft, irregular pulse, tongue moist and livid, pupils dilated, drowsiness, urine limpid, often suppressed; no complaint of local pain, and an air of indifference when roused from stupor. In such cases death will take place within four hours. This form of diphtheria is rare."

2. Another form, scarcely less malignant, is more frequently met with. "The subject of it, generally a child, perhaps retires to rest apparently in its usual health. In the middle of the night, or rather towards morning, it awakes with a sense of distressing nausea, followed by vomiting of a thin, whitish, glairy fluid. Then there is a purging of something similar, but particularly offensive. The child most probably does not complain of uneasiness in the throat; he is drowsy, and seems disinclined to answer questions. The face is pallid, and the expression altered. On examination, we are struck with a shining crimson appearance of the mucous membrane of the fauces. From the velum a tenacious, thin sheet of translucent mucus hangs like a curtain over the base of the tongue, the papillæ of which are tumified, its surface dry, clean and red. The pulse is rapid, irregular and compressible. The skin may be warm, though more generally it will be found cool. After a lapse of some hours reaction takes place; and now there is a difficulty of deglutition. Drowsiness is succeeded by delirium; respiration is more frequent. The neck is swollen, hard and tender, chiefly in the parotid and sub-maxillary regions. The anterior half of the tongue may be clean, but posteriorly it is coated with a thick fur, which sometimes is continued to its tip. The whole of the fauces is covered with a deposit like wash-leather. One or both tonsils swelled; breath offensive; a thin sanies issuing from the nares. There may be epistaxis and bleeding from the gums. At first, the urine is limpid; but should the attack not terminate in death within twenty-four hours, it becomes more colored, and there will be a deposit of lithates; at a later stage it is albuminous, and contains the coloring matter of the blood; petechial spots form on the surface, diarrhœa sets in, or if it has been persistent from the beginning, the discharges become altered in appearance, being like what we occasionally see towards the close of dysenteric cases: serous, like the washings of flesh, and accompanied by intolerable fœter. The surface grows cold, and either coma or a tetanic convulsion terminates life, gener-



ally within four days. Few cases of this kind escape; and fortunately it is not the usual type of diphtheria, even when malignant."

3. "The malignant form most familiar with practitioners commences with a sense of lassitude preceding a variable amount of fever and slight soreness of throat. The pulse becomes rapid, small and compressible; the tongue is covered with a thick, yellowish, dirty-brown coat; the uvula, velum, and pharynx are at first of a dusky red; deglutition is painful and difficult; the neck, about the parotid and sub-maxillary regions, swells; from the nose distils an acrid humor; the voice changes; the breath grows fetid; the breathing, from mechanical obstruction, is stertorous; there is much thirst, and there may be vomiting. In some hours the erysipelatous hue of the fauces is replaced by a deposition, as if, as Dr. Blount expressed it, a thin layer of pie-paste was spread over the parts, the edges being thick and abrupt. The urine is scanty and albuminous; debility increases, and the patient sinks exhausted, often retaining to the last the intellect in its integrity. This is the most frequent mode of accession, progress, and termination of malignant diphtheria, and its duration is generally from eight to ten weeks."

4. "The next variety of the disease is what has been termed croupal. In some epidemics, this has been the prevailing type. It does not appear to be attended with the same oppression of the system of those already described. A sense of constriction in the larynx is an early symptom; the accompanying fever is generally sthenic in character, though some such cases have not presented, from beginning to end, pyrexia. The false membrane rapidly extends to the respiratory organs; there is a hoarse, barking cough, with occasional paroxysms of suffocation, and death takes place by asphyxia."

5. "The form most frequently appearing in this country is of a more gradual invasion, and commences with symptoms of catarrh; coryza, slight fever, with headache, and a pain in one or both ears, usually usher in the attack. There is some soreness of the throat, without swelling either of the fauces or the glands externally. The appetite is often scarcely lessened. There may be diminished energy, but not so much as to prevent the patient from attending to his usual pursuits. The fauces, on examination, will present one or more insulated patches of a grayish-white pseudo-membrane, not so defined at the edges, nor bordered with the same distinct redness as in the malignant variety, but more shaded off. In this form, which lasts from five to ten days, there may be some albuminuria; and even after the more prominent signs of the disease shall have passed away, albuminuria may for a variable length of time be persistent, and accompanied by an anæmic state of the system."

Dr. John H. Hollister, of Chicago, attributes (*Chicago Medical Exam.*, March, 1860,) the various modifications of the disease to the different physical conditions of those suffering from it. The sthenic form, for instance, presents inflammation of the most decided sthenic character, with remarkably plastic effusion, resulting in the formation of firm and thick false membrane. In one case, this

pseudo-plasma was found so perfectly developed as to give, after expulsion, a perfect cast of the trachea and bronchial tubes to a great extent. An asthenic case, on the contrary, may be marked by nothing but a croupy cough, continuing, without any other disturbance, for a number of days. The fauces will be found affected by congestion of a passive character, the tonsils much enlarged, and the whole of the mucous membrane in the posterior part of the mouth of a dark, livid color. Slight secretion of mucus; labored respiration. Soon the affected parts change in appearance, become covered with an abundant sanious discharge, asphyxia develops itself, and the patient sinks in a few days.

Prof. Alonzo Clark, in his lecture on diphtherite, before the College of Physicians and Surgeons, of New York (*Med. and Surg. Reporter*), divided "all the modes of invasion peculiar to this affection" under two heads: those in which the *constitutional symptoms* are active from the beginning, and those in which the disease makes its invasion *very insidiously*, and only becomes manifest by the appearance of a patch of exudation upon one or other of the tonsils, or in the fauces. "In this latter class of cases, the children do not complain of much ill-health; yet it is apparent that they do not feel exactly well, and have, as a rule, not much disposition to play;" they may, however, be found in bed amusing themselves with their play-things. Voice full, perhaps a little hoarse; some coughing; slight glandular swelling on the outside of the throat. A little patch of membranous exudation on the fauces, sometimes surrounded by a venous injection. Pulse not very rapid, perhaps 100; countenance only a little paler than usual; tongue not particularly covered with any coating, nor dry. In such cases a few cold chills may form the first indication of the disease; the constitutional form commences almost invariably with cold chills; there is high fever, and sometimes vomiting, at the very onset.

"The symptoms of membranous disease," says Dr. B. E. Cotting, of Roxbury (*Boston Med. and Surg. Journ.*, Sept. 22, 1859), "are both constitutional and local. The constitutional may be so severe and so rapidly developed as to destroy life before the local have become a source of danger, or they may be so slight as to be overlooked. The local, also, may have the violence, though not the other characteristics of rapid inflammations, or their existence may even be a matter of doubt, until made evident by obstruction, caused by the membrane fully formed. It is a self-limited disease, having its beginning, middle, and ending, as marked and uniform in progress, and as uncontrolled by any means now known, as variola, measles, or any other disease that can be cited. The formation of the membrane (as constant a condition as the eruption in variola) does not always correspond in amount to the severity of the other symptoms, general or local, in this also resembling the diseases alluded to. The membrane may be only a thin film, or it may have the thickness and toughness of moistened parchment; it may cover only a very limited space, or it may occupy the whole mucous surface of the organs attacked. It usually forms gradually,

being at first a very thin layer (not unlike the first coat of white paint on a pine board); then this layer becomes thicker and tougher, day by day, until it reaches its limit. Its progress, so far as it has any, is from above downward; and any deviation from this rule is rather apparent than real. From the outset, however, it generally covers all the surface that it ever will during the attack, increasing only in density. Its thinness may prevent its being early noticed on parts within sight, though clearly visible at a later period of the disease. During its formative stage it remains firmly adherent to the mucous tissue beneath it, so that it is impossible to remove it, even by the most careful dissection. As soon as this stage is completed, usually in four or five days, the membrane begins to loosen from its foundation, and soon becomes entirely separated; it then creates sufficient irritation and cough to cause its expulsion. Sometimes it is cast off without observation, while at others its ejection is attended with convulsive efforts of the greatest severity. If a portion is artificially removed, previous to this natural separation, another forms in its place."

The false membrane exists in all cases of diphtheria, affirms Dr. Dyas (l. c.), except in those extremely rare ones wherein the system is at once overwhelmingly oppressed by the attack, and life is extinguished ere time is given for the usual characteristic phenomena to be fully developed. It appears very early, within eight-and-thirty hours from the beginning of the disease, generally on one tonsil, or rather in the sulcus between the anterior pillar and tonsil, like a stain left by nitrate of silver on a mucous surface—a pearl-colored spot on a red ground. Sometimes it appears first on the uvula or velum. It extends more or less rapidly, so as often to cover the tonsils, uvula, velum, pharynx, pillars of the fauces, and base of the tongue, with a continuous layer, in from twenty-four to forty-eight hours. It may pass along in the respiratory passages to the bronchial tubes, and even down to the œsophagus—according to some, as far as the cardiac orifice: it has been found following the nasal ducts to the conjunctiva. The mucous membrane of the cheeks and gums, the cutaneous surface, the vulva, and the anus may be its seat. Hence the terms faucial pharyngeal, pharyngo-laryngeal, or croupal, laryngo-tracheal, buccal, vulval, cutaneous, pharyngo-cutaneous, laryngo-cutaneous diphtheritis. Several of these forms have happened in the same family nearly at the same time, showing that the distinction is immaterial.

Generally the thickness of the membrane increases with its area; this, however, varies from the thinnest imaginable pellicle to two or three lines. It may be firm, or a mere diffuent pulp. Sometimes it is in distinct, dull white patches; at others it is confluent. Occasionally it assumes a light buff, yellowish, ash-colored, or even black appearance.

Diphtheritis may run its course, from beginning to end, to recovery or death, without a single pyretic symptom; when fever accompanies it, the type of it is not always the same, although the tendency is usually to the typhoid. In this country the attendant



fever has been frequently of an intermittent character, probably in consequence of prevailing malarious influence; if so, the intermittent ought to be considered as a complication, rather than a modification of the original disease.

Among other complications observed are measles, scarlet fever, small-pox, whooping-cough, gastric fever, gastro-enteritis, meningitis, and the various diseases of the throat.

Dr. Daviot did not think pharyngeal diphtheritis contagious; and Dr. Cotting also asserts to have seen no evidence that the disease in general is contagious. The evidence so far collected, however, leaves no room to doubt the truth of the remark made in the *London Lancet* (April, 1859), that "contagion plays the principal part in the propagation of diphtheria." Diphtheritic matter, ejected from the mouth of a patient and lodging in the nostrils of the attending physician, has subjected the latter to severe diphtheritic inflammation, spreading to the pharynx, and inducing extreme prostration of the whole system. Quite a number of similar cases are on record. A boy using a bath in which a diphtheritic patient had been previously, contracted the cutaneous form of the disease. If the morbid matter happens to come in contact with an abraded or wounded spot of the skin, the characteristic membrane will arise from that spot, including also the usual constitutional symptoms, and frequently the affection of the fauces.

There are still some other phases of this singular disease to be considered. Even if the patient has recovered from the immediate effects of the attack, and appears completely convalescent, he may, in several weeks, sink and die without any further well-developed symptoms. Latent pneumonia is frequently discovered in the dead body. Amaurosis, strabismus, and presbyopia have been observed as consequences of diphtheritis; but one of its most common sequelæ is paralysis, either partial or general. Two, three weeks, or a month after all traces of the original complaint have disappeared, symptoms of anæmia manifest themselves, and slowly paralytic affections are developed. The first is usually confined to the soft palate, or tongue, characterized by a difficulty of deglutition, and a nasal speech; but this may be wanting. If present, it gives way to more general nervous accidents, sometimes increasing to delirium and convulsions (which must not be confounded with the same symptoms attending the more malignant forms of the disease). But these constitute rather an exception: in most of the cases tending to paralysis, a sense of numbness follows, in one or both arms, the neck, or lower extremities. There may be also vague pains in the back and elsewhere. Now the strength fails gradually; walking becomes more and more painful, until the upright position is impossible. The upper extremities partake in this weakness, the head sinks on the chest, etc. According to Trousseau, the same alternations may be present as in purely nervous affections: the numbness changing from one hand to the other, or the paralysis attacking the legs alternately. In all cases there is an evident affection of the spinal system. Numbness of the cheeks and nose,

or distortions of the face, defective articulation, strabismus, paralysis of the bladder and rectum sometimes supervene. There is no fever, a small pulse, but often a tumultuous action of the heart, with anæmic murmurs. The intellect remains intact, although the mental powers are depressed. Dr. Faure, of Paris, adds that during this paralytic affection sensation is diminished, and sometimes entirely lost, or replaced by formication. In some, sundry parts of the body become œdematous, in others gangrenous; others again are subjected to repeated faintings. If this condition terminates favorably, recovery is very slow, occupying from two to eight months.

Dr. Cooper, of San Francisco Medical Press, (Jan., 1860,) saw many of his patients die suddenly from pyæmia, after recovering sufficiently from attacks of diphtheritis to walk about. In these cases the pulse never arose to its normal standard, and the skin remained colder than natural.

The diagnosis of diphtheritis must be based principally upon the patch-like aplastic exudation, accompanied by marked prostration, and spreading, particularly downwards. Some authors also mention a peculiar "muffled sound of respiration;" with Dr. Cotting this is the principal diagnostic sign. In his words, "It is very difficult to describe the sound. It can only be learned by attentive and frequent observations; yet it is more reliable, and therefore more valuable, than all other diagnostic signs. Once in a while it can be detected before any other indication of the disease is manifested—say in the first two or three hours." The absence of membrane within sight is not always sufficient evidence that the disease is not present. In such cases, the general condition of the patient, the frequent and feeble pulse, and the *genius epidemicus* must be our guides. It is then that the sound so much relied on by Cotting may also prove a valuable symptom.

It can not be difficult to distinguish diphtheritis and scarlet fever, or putrid sore throat, as there is no eruption, nor ulceration and sloughing in our disease; or at least the latter but rarely. More important is the diagnosis between diphtheritis and croup; Bretonneau, Duche, Guernsant, Baird, Barthez, Rillet, Johnstone, and others defending their identity, and simply designating croup as laryngeal or tracheal diphtheritis, or declaring both to be the same disease, only affecting different portions of the same mucous membrane. But diphtheritis is essentially an asthenic disease, affecting the whole system, thus producing a series of constitutional symptoms; it is epidemic and contagious, while croup lacks all these attributes, being only an inflammatory local affection. In croup there is never the swelling of the lymphatics of the neck, which is a constant attendant upon diphtheritis, and the pseudo-membrane itself sufficiently separates the two diseases: the origin from patches, the aplastic nature and its spreading far beyond the air-passages, which become affected merely by confluence, are found only in diphtheritis. Croup is, further, almost exclusively confined to children, whereas diphtheritis attacks indiscriminately children,

adolescents, and adults. Croup is never followed by paralysis, and kills only in one way—by suffocation; diphtheritis may end in the same manner, but it also induces death by asthenia, and months after the disappearance of all exudation, by its effects on the nervous system.

In regard to the prognosis, Dr. D. Wooster thinks the mild variety, or simple form of the disease (confined to the fauces), is easily controlled; but the severe form (combined with constitutional symptoms and extensive exudation), only with difficulty, giving an extremely unfavorable prognosis even at the beginning. The gravity of the prognosis in general may be said to be in proportion to the suddenness of invasion, and the signs of congestion. Good symptoms are: the false membranes ceasing to extend, and detaching themselves in shreds: slight febrile symptoms; absence of stupor; an unaffected pulse; a soft and moderately warm surface; expression not altered; unchanged color of face and lips; neck and papillæ of the tongue not swollen; no œdema of the fauces. In no disease, however, amendment is more fallacious: we can not, either from a particular sign or assemblage of symptoms, calculate with some approximation at certainty what the termination may be. The disease may have commenced without any indication of particular danger, may develop itself in an apparently mild form; and there may even be a manifest improvement in every symptom, the little sufferer perhaps sitting up, smiling, eating, drinking, amusing himself; suddenly croupy symptoms supervene, or reappear to end only with life. The disease has extended from the pharynx to the respiratory passages, and death is the result of asphyxia. This may also be produced without affection of the larynx, either by the swollen condition of the fauces, tonsils and cervical glands, in combination with obstruction of the nares and altered innervation, or by a congested state of the lungs frequently accompanying the malignant forms.

Nausea and vomiting, or convulsions in the beginning of the disease, a rapid extension of the exudation to the posterior nares, a sense of constriction in the larynx, disagreeable odor of the breath, a croupy sound of the respiration, great enlargement of the cervical glands, are among the symptoms of fatal significance.

Life may be destroyed even after the whole membrane has been thrown off. The excessive and unremitting exertions in breathing, caused by the obstruction offered to the free respiration, as well as the intense constitutional disturbance, are apt to exhaust the vital power, without suffocation. Complications generally tend to produce an equally fatal result. The superceding paralysis is frequently but not always removed by a proper treatment.

On the whole, the disease is, as Dr. Wooster says, one of the most decidedly fatal ones. The chance for a favorable recovery among children is about one in three, according to Dr. Cotting; Dr. A. S. Clark thinks nine out of ten cases will recover, even with the malignant form, under an appropriate treatment. Admitting



the influence of the curative means employed, there is still a formidable mortality unavoidably connected with the disease, though the number of deaths varies during different epidemics.

The post mortem examinations usually reveal a deep red or livid appearance of the mucous membrane of the palate, pharynx and adjacent parts, more or less extensive. In most cases the palate, tonsils, upper part of pharynx, epiglottis, bronchial tubes, sometimes the internal surface of the œsophagus, the pituitary membrane, or some of these parts, perhaps the trachea alone, are found invested with false membrane. Seldom gangrene or ulceration is manifest. The lungs may exhibit patches of hepatization or purulent infiltration; and there may be more or less congestion elsewhere. Occasionally, blood is seen extravasated in the muscular tissue of the heart, and the kidneys often bear the marks of disease. The viscera are frequently dotted over with petechial spots.

Dr. A. Jacobi, of New York, declares the diphtheritic membrane homogeneous in structure to the pseudo-plasma of croup; but this seems to be a mistake. The great difference between them is, that the diphtheritic exudation appears to be incapable of organization, and never tends to organic union with the subjacent tissues. Dr. Cotting describes it as of a peculiar structure: a tissue of elastic fibres longitudinally arranged, the fibres smooth, and in no way transversely striated. Great elasticity is one of its characteristics."

Dr. Laycock found a parasitic fungus (*oidium albicans*) in this membrane, and supposed, therefore, that the disease originated from the parasite; but its presence is thought to be merely accidental.

The nature of diphtheritis is not entirely clear. It is now pretty generally admitted to be a constitutional affection, of an asthenic character, with prominent local manifestations, principally in the throat, resulting in the exudation of an inorganic pseudo-membrane. The disease is the result of a distinct influence (diphtheritic miasm), contaminating the blood, or infecting the whole system with morbid poison. The conjecture of Dr. Dyas, who considers a morbid impression on the *par vagum* as one of the principal features of diphtheritis, needs confirmation.

In accordance with this view, the therapeutical indications are the elimination or neutralization of the offensive matter, whatever it may be, the correction and mitigation of the local symptoms, and the support of the system, where necessary. Consequently, a general or constitutional and a local treatment is required, with strict dietetic measures.

Daviot, Meigs and others, have practiced general and local bleeding, not without success; the general character of the disease, however, during the last years, and especially on this continent, has been such as to forbid blood-letting in any form; and it is at present looked upon as inadmissible. The croupal form predominating at the time of Bretonneau, seemed to offer an indication not now appearing. The same may be said of mercury, in spite of

the many advocates calomel has found up to this day. Whenever the complaint extended to the larynx and trachea, Bretonneau placed his chief reliance on calomel, in three grain doses every hour, combined with mercurial frictions over the neck, arms and chest, repeated every three hours. The most extensive use of it is made by Dr. I. Meranda, of New Carlisle, Ohio, (*Cin. Lancet and Obs.*, March, 1860.) To the strong, the robust, the plethoric patient, and in cases distinguished by high arterial excitement, he prescribes it with jalap in full purgative doses, following with the usual remedies against high febrile action. To those of a feeble constitution, or where marks of prostration are apparent, he gives calomel in alterative doses, conjoined with opium and ipecacuanha, or with camphorated Dover's powder, until there is an evacuation of green stools. When croupal symptoms supervene, calomel in small but often-repeated doses is Dr. Meranda's remedy; and in some chronic cases he maintains to have observed the happiest effects follow a moderate salivation. In a case detailed by Prof. Hollister (*Chic. Med. Exam.*, Feb., 1860), powders of calomel and ipecacuanha play also a prominent part. Daviot, however, who wrote one of the best monographs on diphtheritis, looks on calomel as useless in pharyngeal, but particularly serviceable in the cutaneous variety. Dr. Briggs of Virginia, and Dr. Anderson, of New York, admit it in small doses, two or three grains, the last named in combination with prepared chalk, in slight cases; while Dr. G. W. Claiborne (*Virg. Med. Journ.*, Oct., 1859), declares it to be a good remedy to commence the treatment with and prepare the organism for a tonic course, where "a foul tongue and offensive breath indicate disordered secretions of the primæ viæ." In the opinion of Prof. Alonzo Clark, "the application of dry calomel to the ulcerations of the throat is of decided benefit; but the administration of mercury, with a view of obtaining its constitutional effects, is a doubtful expedient." A similar practice of Dr. Bigelow will be mentioned hereafter. By far the most practitioners think rather unfavorably of mercurials in diphtheritis; and its inefficacy in many cases has been clearly proven. Even as an evacuant, the propriety of administering it in diphtheritis is at best questionable.

The recommendation of cathartics is very limited, Dr. A. S. Clark (*Ohio Med. and Surg. Journ.*, May, 1860), being almost the only one who insists on their use. In mild cases he orders a dose of sulphate of magnesia, or some other saline cathartic; but in cases of high fever, where "an active cathartic" is wanted, "that will stimulate the secretions, and at the same time not depress the vital powers," calomel is given, together with ipecacuanha, carbonate of ammonia, and soda, followed, if necessary, with Rochelle salts, or any other saline cathartics. The drastic cathartics are universally objected to. Dr. S. M. Bigelow, of Paris, in his excellent letter on diphtheritis addressed to Prof. Warren Stone, of Louisiana, (*New Orleans Med. and Surg. Journ.*, Jan., 1860), mentions the citrate of magnesia, six or eight drams, to be

given every two hours until it operates. Equal, if not better, is the advice of Drs. D. Wooster, of California, (*Pacific Med. and Surg. Journ.*, 1859), and Wm. L. Wells, of Wisconsin, (*Chic. Med. Exam.*, April, 1860): to select either the mildest laxatives, or employ injections, so as to move the bowels once a day.

"I protest," writes Dr. Bigelow, "in the most serious manner, against the use of emetics in angine couenneuse," and they are certainly never plainly indicated. Nevertheless, they have been pronounced by some occasionally serviceable at the period of invasion of the disease, especially in young children, and when the false membrane extends to the trachea; others, on a more rational basis, will not admit them, except when their mechanical action might assist in detaching the membrane. In either case, neither antimony nor ipecacuanha should be used, on account of their depressing effects. (Wooster's plan, to commence with ipecacuanha in full doses and repeat them for two or three days, seems not to have been followed any where.) Drs. Meigs and Pollard used alum as an emetic, a teaspoonful mixed with molasses, repeating that dose in the course of ten or twenty minutes, if required. But the turpeth mineral (sub-sulphate of mercury), first recommended by Dr. Hubbard, of Maine, is now acknowledged as the best emetic in diphtheritis. It never induces catharsis, and is not followed by prostration, while it operates promptly and certainly. Two or three grains may be given to a child of two years every ten or fifteen minutes, until vomiting takes place. Both alum and turpeth mineral are well suited to patients above one year; for smaller children perhaps some preparation of squill would be preferable (Dr. Dyas).

The most prominent among the remedies employed as directly counteracting the morbid influence is the chlorate of potash, alone or combined with hydrochloric acid, iron and ether. Dr. Bigelow administers every three hours ten grains of the chlorate and ten grains of the bichlorate, in some convenient vehicle, giving at the same time one tenth of a grain of calomel with sugar, to be put dry upon the tongue, once in one or two hours, or less frequently, sometimes omitting the calomel altogether for a while, according to circumstances. Chlorate of potash with hydrochloric acid has been recommended by Dr. Kinsford (*Lancet*, Jan., 1859); Dr. I. Meranda prescribes two drams of the chlorate with one fluid dram of hydrochloric acid in eight fluid ounces of water, half an ounce to be taken every three hours. This formula was originally given by Dr. Lambden (*Lancet*, Nov., 1858); it contains free chlorine in solution. The chlorate and quinine in full doses constitute the treatment of Dr. Barker, of New York. Dr. Jacobi gives from a half to one dram per day to a child from six months to four years old, three drams to those above that age, continuing for weeks and even months. He usually adds iron, the muriatic tincture in preference. Finding in severe cases the chlorate to operate too slowly alone, he also combines it or precedes it with a few large doses of quinine. The best form, in his judgment, is the solution in water



with the addition of some acid, generally the muriatic. Dr. A. S. Clark approves of the free use of chlorate of potash and sesquichloride of iron in tincture, diluted with nitrous ether, but he prefers the following formula: chlorate of potash, one ounce; syrup of lemons, water, of each four ounces; sulphate of morphine, two grains. Take a tablespoonful every four or five hours.

In Wisconsin, the tincture of the sesquichloride of iron, the hydrochloric acid and the chlorate of potash were given together in a convenient vehicle, or alternately in full doses. Sometimes the tincture of iron can not be borne for many days; then the sulphate of quinine with citrate of iron ought to be substituted (Dr. Wm. L. Wells). The "Lancet Commission" placed the most reliance in a mixture of sesquichloride of iron with chlorate of potash, chloric ether and hydrochloric acid, sweetened with syrup. The chlorate may also be given after the method of Dr. Gardner, of New York, in a syrup saturated with it, a teaspoonful in four hours, alternately with three drops of perchloride of iron in syrup. Nothing else is required in cases without local affection.

But notwithstanding this general adoption of the chlorate of potash, some doubts in regard to its efficacy have been expressed, especially by American practitioners. Prof. Alonzo Clark says it is not, as claimed, a specific in this disease, but still of some benefit, and should therefore form a part of our treatment. In the able article of Dr. Dyas occurs the following passage: "It is very much a matter of conjecture how chlorate of potash acts on the human organism, and on the whole it is doubtful if it possesses a great deal of therapeutic value in diphtheria. It may be prescribed in combination with some bitter infusion (cascarilla, gentian, or bark), in doses of from ten to thirty grains, according to age." Most summarily Dr. Wooster disposes of it: he believes the chlorate of potash harmless, but of unproved efficacy, simply mitigating the fœtor of expiration.

The declining reputation of this remedy is apparently to be transferred to the muriate and sesquichloride of iron, heretofore only employed as adjuvants and tonics. In the latter quality, Dyas speaks of Thompson's bitter wine of iron, containing one grain of Wetherell's precipitated extract of bark and two grains of citrate of iron in a teaspoonful of cherry wine; but some prefer the tincture of the sesquichloride of iron, "ten or fifteen drops every third or fourth hour." Dr. F. Isnard warmly recommends (*Gaz. des Hop.; Amer. Med. Monthly*, March, 1860), the perchloride of iron as specific against croup and diphtheritis. It should be administered as soon as possible, in large doses, and continued at all stages of the disease. Dr. Th. Heckstall Smith, (*Braithwaite's Retrospect*, Jan., 1860), while relying chiefly on gallic acid, found the sesquichloride of iron tincture far superior to any thing; and Dr. W. H. Ranking (*Ranking's Abstract*, No. 29), confirms the value of this tincture as an internal remedy in diphtheritis. If so, the treatment of this disease would be materially simplified; in

most of the present methods too many remedies are administered promiscuously.

In a monograph on scarlatina and diphtheria, (London, 1859), which he considers as one and the same thing, Dr. George Hull praises the sesqui-carbonate of ammonia as a specific, in doses from two to ten grains, every two, three or four hours. Baron treated before him (*Gaz. de Paris*, 5, 1856), diphtheritis with Vichy water and bicarbonate of soda.

A composition called "ferruginated cod-liver oil," has been proposed by Dr. Wooster, two fluid drams with one of brandy, to be taken four or five times a day, or oftener, if the stomach will bear it.

To meet the second indication a large number of topical applications have been employed, without due consideration of the question how far, if ever, it was practicable or necessary to remove the false membrane. Dr. Bigelow always removes with a long forceps, or by scraping, or by any other means, violent or gentle, all accessible portions of it. Dr. Cotting, on the other hand, found that harsh attempts by emetics, probangs and the like, to dislodge the membrane before its natural separation, are often accompanied by fearful risks; and could it be effected, it would involve a reformation, more to be dreaded in the exhausted state of the patient than its first appearing. Dr. Wells also removes the membrane with the forceps, where it can be done, which is rarely the case.

Nitrate of silver in the solid stick, where practicable, or more commonly in strong solution, has been applied most extensively to the throat. Many are of the opinion it could not be superseded by any other local application; such an assertion, however, will not hold good everywhere. The application in substance is stated to have had occasionally the most serious consequences. Twenty, thirty, forty, sixty grains to an ounce of water have been employed, in the beginning as well as in the more advanced stages of the disease. Prof. Alonzo Clark and Dr. Jacobi, considering the application of the caustic to the membrane itself of no special service, only apply it to the parts immediately around the exudation, so as to prevent the inflammation from spreading, and limit thus the further extension of the membrane.

Bretonneau principally depended on the energetic application of concentrated muriatic acid. It has been employed by others, diluted or not, in very young children, mixed with an equal quantity of honey. Equal parts of hydrochloric acid and tincture of myrrh, says Dr. Beardsley, detached the pseudo-membrane most readily, and diminished the liability of its being renewed.

A strong solution of sulphate of copper (one dram to one ounce of water) may also be applied topically. Used in the same manner, some preparations of iron have been found equally useful. The concentrated solution of the perchloride, or Monsell's salt in powder, or the tincture of the sesquichloride, are declared by Wooster, Wells, Beardsley, Dyas, A. S. Clark, and others, to be the most efficacious and valuable of all topical applications.

Dr. J. J. Morgan expresses a great predilection for a saturated solution of acetate of lead (adding one grain of morphine to the ounce), as a gargle, and to be applied with a sponge, two or three times in twenty-four hours. At least he commences with it in every instance, and if the disease advances in spite of it, he substitutes the lunar caustic in solution.

Tannin has not been tried sufficiently. Dr. Heighway, of Cincinnati, dissolved two drams of it in one pint of glycerine, and applied that solution by means of a probang, with good effect. Tannin may also be used alone.

Particularly destructive to the exudation is sulphurous acid (Dr. Heighway, Prof. Comegys); it is best used in the form of a salt, as the hypophosphide of soda.

Dulmont found (*Gaz. des Hop.*, 47, 1856,) nitrate of silver and muriatic acid insufficient, but lemon-juice, painted over, a good application; Homotte added a little alum. Tincture of iodine has been tried about the same time, without giving satisfaction. Upon experiments made by him, Ozanam based, in the same year, the conclusion that all pseudo-membranous productions are best destroyed by the alkalies and muriatic acid, and soonest removed by bromine and bromide of potash. Thereupon he recommended this bromide or a bromine-water against diphtheritis, croup, and similar affections; but his proposition seems to have met with no favor.

An idea of Dr. A. S. Clark deserves a trial: he thinks glycerine may be employed, in advanced states, between the caustic applications, for its lubricating as well as for its solvent powers.

Strong nitric acid, applied by means of a brush, is the remedy of Prof. Comegys, when there are deep and extensive ulcerations.

Baudelocque used a decoction of bark with chloride of soda as a gargle; Wooster also mentions the solution of chloride of sodium, and Dr. Wells asserts that gargles with chloride of soda and chlorate of potash act undoubtedly as a solvent of the membrane. Dr. Roche (*Union Medicale*, No. 88; *N. Amer. Med. Chir. Rev.*, Nov., 1859,) was very successful with injections containing chloride of sodium. He practices an almost continuous irrigation of the throat, by means of Equisier's irrigator, considering the irrigation the principal curative agent, and therefore employing indifferently solutions containing salt, alum, or the chlorates.

In mild cases alum gargles as the only local application have proved sufficient. Gargles with alum and red-oak bark are proposed for severe cases; but tannin and alum seem to be useless, at least in Dr. Wells' experience. Baudelocque applied powdered alum to the nostrils by means of a souffloir; Daviot thought it useful only in the early stage of the affection.

A method mentioned by Dr. Perron (*L' Union*, 53, 1856,) has been revived and modified by Dr. Bigelow. Perron blew alum and sulphate of zinc into the mouth several times a day, using afterwards gargles with alum. Bigelow commences his treatment with an insufflation of one drachm of powdered burnt alum, and repeats



that operation as long as a tendency to the formation of the false membrane continues, alternating in the later time with tannin.

When, after a few days, the fauces become so exceedingly sensitive as to give great pain, Dr. G. W. Claiborne (*Virginia Med. Jour.*, Oct., 1859,) used with good success a wash of borax, honey and myrrh.

Dr. I. S. Bristom prefers locally in all cases the employment of mild detergent gargles (*Braithwaite's Retrospect*, Jan., 1860.)

A gentle stimulant, in the form of a mild lotion, say eight grains of iodide of zinc to an ounce of water, is, in the opinion of Dr. W. Judkins, of Cincinnati, all the topical treatment required.

Dr. S. A. Cartwright employs a local application of his own invention, and expresses himself well satisfied with it (*N. O. Med. and Surg. Jour.*, Nov., 1859.) He infuses for several days in one pint of diluted alcohol: finely powdered hydrastis root and the powdered bark of the root of the myrica cerifera, of each one ounce; three ounces of gum myrrh, and two drachms of capsicum. "A piece of wool or cotton (this better,) fastened to a probang, saturated in the above tincture, is the best thing I have ever found to swab the throat with."

Where the running from the nose is very excessive and offensive, a solution of chlorate of potash, or better, of chlorate of soda (Dr. Jacobi,) or Labarraque's solution (Dr. Thomas, of New York,) may be injected through the nostrils.

Fumigating the throat with boiling water and vinegar poured on catnip, and Labarraque's solution of chloride of soda added, is a method practiced by Dr. Gordon Buck, of New York. In two cases treated by Dr. Ribbins, of the same location, inhaling the vapor of warm water seemed to benefit the patient the most. Prof. Comegys testifies to the beneficial effect of inhalations of one ounce of sulphuric ether with two drachms of tannic acid, a cloth being wetted with the solution and placed into the mouth.

The opinions of the profession, divided on nearly every thing connected with the diphtheritis, are most decidedly opposed to each other in reference to external applications. Daviot, for instance, admits rubifacients; Wooster exhorts us never to use liniments or mustard, because they increase the anguish of the patient, and do not mitigate the affection. Baudelocque applied blisters to the thigh; Daviot objects to blisters in general as having the serious inconvenience of adding cutaneous to pharyngeal diphtheritis, and Meranda, who has but little confidence in external applications to the throat, informs us that blisters are especially hurtful. Dr. Beardsley experienced no satisfactory results from external revulsives, and Dr. White, of Cincinnati, declares all external applications in the form of liniments, tincture of iodoine, poultices, etc., of no benefit. According to Wooster's directions, in the first stage, while the engorgement is red and hot, cold wet compresses should be applied to the neck; further along, when the engorgement of the throat becomes œdematous, warm fomentations. Dr. G. Hull

orders the outside of the neck and throat to be well rubbed with a strong embrocation of ammonia, camphor and opium. A more extensive course is followed by Dr. A. S. Clark, who carries the thing almost too far: he advocates sinapisms to the legs, feet, hands and arms, external stimulants to the neck, and as the disease advances, fomentations of hops, poultices, etc.

Instead of all these annoying and troublesome appliances, Dr. S. M. Bigelow puts his patients from the beginning into a tepid bath of one or two hours' duration, and has that repeated every two or three days.

There is another feature in the rational treatment of diphtheritis which claims particular attention. The system is to be supported by a free, energetic and persistent tonic or sustaining constitutional treatment, besides the exhibition of general and local remedies as already specified. All authors agree that a vigorous course, with tonics and stimulants, is an imperative requirement. Therefore the most generous diet; strong beef tea, mutton broth, chicken soup, eggs, wine, brandy, and "whatever other form of nutriment the ingenuity of the surgeon or the fancy of the patient may suggest," (Lancet Commission.) "We urged," relates Dr. Wells, "and in some cases forced patients to take nourishment, notwithstanding the loss of appetite, amounting in some instances to a disgust for food." Where a sufficient amount of nourishment can not be swallowed, it must be supplied by injections.

Among the remedies proper, turpentine, camphor, carbonate of ammonia, Peruvian bark, but especially the tinctures of iron and quinine, in doses adapted to the age and condition of the patient, are usually selected. Quinine, with a mineral acid and a little lemon syrup, (Dr. Claiborne,) is a very desirable preparation. Sometimes, however, there seems to be some contra-indication to the exhibition of quinine. "When the tongue is foul and the stomach irritable, it is better to withhold or suspend it. Loss of appetite, soft compressible pulse, tremulous tongue, languor and subdued expression are indications for its exhibition," (Dr. Dyas.) A most comprehensive and impressive description of this part of the treatment is furnished by Dr. Bigelow. He says:

"I commence immediately with the use of tonics, stimulants, and the most nourishing possible animal food. Quinine every three hours in as large doses as can be borne; bitters composed of cinchona, columbo, camomile, quassia, bitter orange peel, etc., formed into a strong infusion, to which I add brandy and a little syrup:

“R Cortex cinchonæ flavæ cont.,  
 Radix gentianæ cont., aa 3 ij.,  
 Radix columbæ cont., 3 ss.,  
 Cortex aurantii,  
 Flores anthemidis,  
 Quassia amara, aa 3 ij.,  
 Aqua bulliens, O. ij. M., fiat infusum;  
 Adde: Spiritus vini Gallici, 3 vj.,  
 Syrupus aurantii corticis, 3 iv.

"D.S. To an adult, one-half to two-thirds of an ounce five or six times in twenty-four hours.

"Strong bouillon of beef, mutton and chicken cooked together, with tapioca or vermicelli as a change, a teacupful every three or four hours, occasionally with a boiled egg. Ale, porter, sherry, brandy and water in such quantities as may be borne. During recovery I add to our already nourishing fluid diet solids, such as beef steaks, roast beef, mutton chops, poultry, game, vegetables, etc. Throughout the whole course of the disease I give an abundance of such fruits as peaches, grapes, apricots, cherries, currants, raspberries, strawberries. Lemonade and morsels of ice as beverage, or soda-water and syrup of raspberries, currants and gooseberries."

A constant supply of fresh air must not be overlooked, nor that all-important care, with the whole train of minor services, usually included in the phrase "*good nursing*."

A few peculiar methods of treatment remain to be noticed.

During the epidemic in Augusta, in 1848, Dr. Campbell, observing that the accompanying fever was paroxysmal in character, adopted an anti-periodic medication, which proved more successful than the method previously employed.

Dr. C. Swaby Smith, of Burbage, (*Braithw. Retros.*, Jan., 1860,) commences with the application of a strong solution of chlorinated soda to the fauces, and a sinapism to the throat. A gargle, containing two ounces of a solution of chlorinated soda, two drachms of the tincture of myrrh, and six ounces of water, is to be used every half hour. Where the children are too young to gargle, the throat may be frequently washed with the same mixture, by means of a piece of sponge. Internally: chlorate of potash, two drachms; dilute nitric acid, two drachms; Battery's solution of cinchona, one drachm; water, six ounces. About the sixth part (varying according to the patient's age) to be taken every two hours. If there is much pain in the limbs, a few minims of the tincture of colchicum are added, which addition has proved highly advantageous. The diet to consist of strong beef tea, port wine, and all the nourishment the patient can take.

Dr. G. Bottomley, of Corydon, describes (*Braithw. Retros.*, Jan.,) his plan for children as follows:

℞ Solutionis chlorini,  
Syrupi simplicis, aa ʒ ss.  
Aquæ distillatæ, q. s. ad ʒ vj.

M., fiat gargarisma sæpe utendum.

℞ Solutionis chlorini, gtt. iv.  
Syrupi aurantis, ʒ j.  
Aquæ distillatæ, q. s. ad ʒ ss.

M., fiat haustus, secunda quaque hora sumendus.

The dose is increased according to age. Calomel in one grain doses and more. Diet: concentrated jellies, strong beef-tea, wine, etc.



Dr. J. C. S. Jennings of Malinesburg, (*Braithw.*, Jan.) has adopted a rather rough treatment, and institutes it invariably in all cases, regardless of sex, age, or incubation of disease. First, an active emetic of antimonial wine, from half an ounce to an ounce, according to age; then free cauterizations of the throat with solid nitrate of silver; mustard poultice from ear to ear; the feet and legs plunged into a hot bath, and the patient confined to bed. After the operation of the emetic, a cathartic of calomel and compound extract of colocynth; four hours afterwards this mixture:

℞ Quiniæ dissulph, 3 ss.  
Potassæ chloratis; 3 j.  
Acidi hydrochlorici diluti, 3 ss.  
Aquæ, 3 viij.

M. fiat mistura, cujus sumatur pars sexta quartaquaque hora.

At the same time a gargle of chlorine solution is directed to be prepared frequently, by saturating water with the proto-oxide of chlorine, generated from two parts of chlorate of potass., one of hydrochloric acid, and one of water. The fauces are to be sponged out with this frequently.

Greatly at variance with all others is the method detailed by Dr. B. E. Cotting (*Boston Med. and Surg. Journ.*) While disapproving bleeding, leeches, cupping, blisters, sinapisms, mercurial and drastic purgatives, emetics, cauterizations, he restricts the therapeutical applications to almost nothing. "Mild and nutritious diet, including, if possible, such articles as the patient willingly accepts, is to be preferred to abstinence, certainly to a stimulating course. The inhalation of watery vapor, by an inhaler or other practicable expedient, is often, not always, very agreeable; and if it is not very effective, it is at least without objection. A warm fomentation, or, better still, a warm emollient poultice, covering the whole anterior half of the neck, is probably of service. But above all, anodynes, sufficient to subdue restlessness and insure quietude, are the most important agents. The particular form is of little consequence. Dover's powder, or an equivalent containing the strength of a grain of opium and a grain of ipecac to the ounce, is a very convenient form. The ipecac, however, is not important. Mucilaginous drinks are generally acceptable." From his own statements, it appears that Dr. Cotting was not very happy with this lenient treatment, as old as the history of medicine thought it to be.

Stranger still, but far more successful, appears a plan which Prof. E. S. Cooper adopted (*Boston Med. and Surg. Journ.*, Jan. 5, 1860; *Pacific Med. Journ.*, Jan.) after despairing almost of achieving any thing against the fatal disease. With his treatment he lost only one patient out of thirty-one; and this entitles his proposition to a consideration it could otherwise hardly claim, with all its originality. No applications to the throat are used by him. An embrocation of chloroform (three ounces), cod-liver oil (twelve

ounces), and spirits of turpentine (two ounces), is applied freely all over the neck, breast and abdomen, upon flannels covered with oil-silk. For internal use he gives this mixture: Ext. glycyrrh., three ounces; acacia gum, one ounce; antim. tart., one grain; sacch. alb., two ounces; aqua, 18 ounces. Give a wineglassful every two hours to a young child, say two years old, and increase in proportion to age. During this treatment, not a particle of any thing else is allowed—not a drop of water, nor the least nourishment, save what is in the medicine.

Whatever method may be followed, it seems to be essential to continue both general and local treatment for some days after the disappearance of all morbid symptoms.

Experiments with tracheotomy in diphtheritis have not been wanting. On this continent it has been strongly objected to, and is stated to have never been successful. With Bretonneau it was the last resource; he operated three times, saving one patient. In France the operation has been defended and performed up to the present time. Dr. Bigelow follows Trousseau in recommending it, adding that it must be done earlier than in croup, before the vital powers are too low. A method peculiar to Dr. Bigelow is the insufflation of alum into the pharynx, and as far as manageable into the larynx, through the tracheal tubes, immediately after the operation, and repeated according to circumstances.

In conclusion, the sequelæ of diphtheritis ought to come in for their share of the treatment; but the reports are in this regard almost too meagre. Dr. Bigelow merely alludes to iron tonics, a generous diet, cold affusions, warm clothing, and exercise in open air, for the cure of the subsequent paralysis. In slight cases, sulphate of zinc and quinia have proved sufficient. According to Dyas, the blood must be supplied with its normal proportion of hæmotosin; and this is to be effected through the agency of preparations of iron, with a generous and supporting diet. Sulphur baths, electricity, preparations of zinc and valerian, are occasionally valuable auxiliaries. The same treatment will be required for strabismus, presbyopia, and other ailments sometimes following diphtheritis. Dr. Meranda's cure of the first named, by spigelia and calomel (given in consequence of an imagined connexion with worms) was evidently an accidental occurrence. Jackson's compound syrup of phosphates has been recommended, and Churchill's preparations of the hypophosphites may be still better; but the remedy principally to be relied on, as well for the general and local treatment of diphtheritis itself as for all affections following it, is undoubtedly iron.—*Cincinnati Lancet and Observer*.

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*On the Influence of Valvular Disease of the Heart in promoting Diuresis.* By Dr. AUGUST KUHNER. (*Archiv für Physiologische Heilkunde*, Jahrg. 1859, Heft 4.)

This paper is written to inquire how far the law laid down by Ludwig and Goll, that the secretion of urine is materially modified

by the pressure exercised by the blood upon the walls of the vessels, is influenced by pathological conditions. Ludwig showed, and his views have been experimentally confirmed by Goll, that the Malpighian bodies offer considerable resistance to the blood-current, as their *vas efferens* has a smaller diameter than their *vas afferens*, or than a section of the entire vascular coil; by this means an arrest of the blood and increased lateral pressure are induced, and a larger quantity of water is therefore forced out. Dr. Kühner, at the suggestion of Professor Bamberger, undertook to inquire into the variations that might occur in the amount of the renal secretion under the influence of valvular disorganization. In these cases the blood contained in the heart is subjected to an irregular distribution, and the tension of the arterial system is necessarily diminished. The amount of blood thrown into the aorta at each systole is reduced, or a certain quantity regurgitates. As a smaller quantity of blood occupies a smaller space, and causes a smaller advance of the column of blood, the tension of the aorta and the propulsive power of the left ventricle are also reduced. Hence the circulation is retarded in the arteries, and the impediment operating backwards on the venous system, a further cause of an arrest of the circulation comes into operation, and the veins become distended.

Dr. Kühner analyses these circumstances from the point of view that he takes up, and then examines a series of cases, to ascertain in how far pathology bears out the theory that is implied. He has not, however, been able to make out any definite relation between the renal secretion and cardiac disease, such as would have been anticipated from the previous remarks. The following are in brief the conclusions he arrives at from a careful observation of the actual phenomena:

“Goll’s experiments, which demonstrated the important influence exerted by the hæmostatic pressure upon the secretion of urine, are not confirmed as regards valvular affections. The amount of urine secreted bears the same ratio in valvular diseases as in all other chronic affections. It fluctuates in cases not associated with dropsy within the normal limits, or is moderately diminished. As soon as dropsy accompanies the valvular disease, the urinary secretion is diminished by the former in a marked manner, and stands to it in an inverse ratio—i. e., it diminishes as the dropsy increases, and *vice versa*. As the fatal end of the disease approaches, it sometimes undergoes no change; at times it is much reduced.”

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*Case of Chronic Glanders in the Human Subject.* By JAMES MORRISON, M.D.

W. T. McGilvray, aged thirty-four years, of a nervo-billious temperament and sallow complexion, had for five years resided in Sacramento, where he had followed the profession of veterinary



surgeon. On the 20th of August, 1857, he made a post-mortem examination of two horses that had died of glanders. As a precautionary measure he covered his hands with collodion, but thought he left one or two slight abrasions unprotected. A few hours after, he was attacked with nausea, vomiting, and a violent pain in the frontal part of the head, accompanied by great prostration of the nervous system. There followed the usual symptoms of violent coryza. There was continual and almost intolerable pain in the frontal sinuses, with a watery discharge from the nose, which soon became thick, viscid, and muco-purulent. When I first examined Mr. McG., on the 20th of October, he complained of violent pain in the frontal part of the head. There was a thick viscid discharge, of a greyish color, from the left nostril, adhering with so much tenacity to the surface of the schneiderian membrane, that it was expelled with the greatest difficulty by almost constantly blowing the nose. He was confined during the greater part of the time to his bed; became soon exhausted when he attempted to walk or sit up. There was great depression of spirits, with unfavorable forebodings as to the termination of his disease. There was excessive wakefulness, loss of appetite, bowels constipated, circulation languid, pulse only fifty-six per minute, profuse night sweats, deafness in the left ear, partial paralysis of the gustatory nerve; said that all things tasted alike; skin of a pale, sallow hue, lips and gums pallid, extreme emaciation, and all the symptoms indicating a cachectic condition of the system. A tonic course of treatment seemed to be indicated. I prescribed the citrate of iron and quinine, porter, and a generous diet, embracing such articles as would furnish the greatest amount of nutriment with the least digestive labor. To induce sleep, I directed three grains of cannabis indica to be given at night. This treatment was continued for eight or ten days with apparent benefit. There was less pain in the head, a diminution in the discharge from the nostril, and less wakefulness. There was, however, no improvement in the appetite, and no augmentation of strength. At length, when this treatment ceased to be attended by any salutary effect, and appeared to aggravate rather than allay the severity of the symptoms, I discontinued it, and ordered the iodide of potash and bi-carbonate of mercury to be taken in the compound syrup of sarsaparilla. I substituted the sulphate of morphia for the cannabis indica, as the latter had failed to produce a narcotic effect, though administered in large doses. I also directed a solution of sulphate of zinc to be injected into the nostril. The discharge continued to flow from the left nostril, and remained unchanged and inodorous in its character.

No important change occurred in the condition of my patient until the 10th of December, when a profuse hæmorrhage took place from the nose. He was nearly pulseless before my arrival at his bedside. I plugged the posterior and anterior nares as a precautionary measure, although the hæmorrhage had ceased before my arrival.

This hæmorrhage was followed by a diminution of the pain in the head, but the nasal discharge soon after became purulent, occasionally bloody, and so extremely offensive as to impregnate with its odor not only the air of the apartment occupied, but also the adjoining rooms.

Upon an examination with a probe, the nasal bones were found to be carious. The alterative treatment was continued, and as a local application a solution of the chloride of soda was employed.

Without entering into the details of this case, I will state that my patient apparently continued to improve until the first of April. From this time he gradually declined. His appetite failed, he had frequent attacks of vomiting; the functions of animal life became more impaired; the comatose attacks became of more frequent occurrence, and of longer continuance. Ulceration in the roof of the mouth resulted in perforation of the palate bone. The superior maxillary bone became carious, the teeth became loose and dropped from their sockets. The bowels were alternately relaxed and constipated.

During the night of June 23, 1858, a copious hæmorrhage took place from the nose. This was arrested, but recurred on the morning of the 25th, when death came to the relief of my patient.

Twenty-six hours after death a post-mortem examination was made. The thoracic and abdominal viscera were in a healthy state. On removing the scalp, a deposit of tubercular matter was found exterior to the periosteum of the right temporal bone. On the same bone, extending forward upon the os frontis, was a superficial deposit of rough osseous matter. There was a carious condition of the superior maxillary, sphenoid and turbinated bones, and a perforation of the vomer and os palati. That part of the dura mater corresponding to the right temporal bone was greatly thickened and closely adherent. There was softening of the base of the brain, especially of the middle lobe of the right hemisphere.—*San Francisco Med. Press.*

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*The Utilization of everything for food in China.* By the ABBE  
LE NOIR.

The progress of Chinese civilization cannot be compared with that of Europe. The Mongolic progress takes place, or rather has taken place, with a special characteristic of slowness that has been of value. Agriculture, for example, has so progressed in this immense empire, through the system of small patriarchal estates, that no country on the globe can contend now with China in the abundance of its agricultural products, although this does not prevent, in consequence of the enormous population, (if the census were known, it would probably reach four hundred millions,) an occa-

sional destruction by famine, which has reached even to a hundred thousand victims.

The Chinese have long recognized the necessity of losing nothing; they have conquered natural repugnances, and introduced many natural products, which we reject, into their ordinary food. The lower classes, first, have employed substances despised by the rich; for with the former, children of necessity, all movements of progress take birth, which are afterwards adopted by every one.

\* \* Dogs' flesh is considered, in Europe, as the worst kind of meat; it is called unmasticable. The Chinese have decided otherwise; they fatten dogs that are getting old and eat them; the butcher's stalls are garnished with dogs' meat as well as with that of other animals. The farmers breed a certain race of dogs suitable for fattening, which they call market-dogs, (*chiens de boucherie*;) among these may be mentioned a variety of wolf-dog, with upright ears, remarkable in that the tongue, palate, and the whole interior of the fauces are of a black color. \* \*

In certain restaurants of *our* large cities, cats are sometimes served up for rabbits; the Chinese use no such deceptions, considering cat's meat excellent, and at provision stores may be seen enormous cats suspended with their heads and tails. On all the farms, these animals may be seen, attached to light chains, undergoing fattening with the refuse rice that would be thrown away. The cats are large, resembling those found in our counting-rooms and parlors; the rest imposed on them facilitates the fattening process.

The rat also occupies a large place in the nutrition of the Chinese; it is eaten like the meats just described, either fresh or salted; the salted are chiefly destined for the junks. The farmers, seeing that this article is profitable, have even devised a plan by which they can reap some advantage from the fecundity of this animal. They have *Ratteries*; to establish these rat-lodges, they place in the corners of walls, that rats frequent, bottles with necks large enough to admit the hand; the animal, mistaking these bottles, fastened in the walls, for crevices, makes its nest in them, raises its young, and the farmer goes from time to time to remove the young rats, just as pigeons are removed from nests in pigeon-houses.

From rodents, let us pass to batrachians. In some countries the hind legs of frogs are eaten; the Chinese eat them entire, looking upon them only as we do on little birds. Still further, what is to be eaten must be decided by taste and not by appearance—a very rational Chinese proverb. The Chinese having tasted the toad and having found it good, have made it one of their ordinary articles of food, despite its repulsive appearance. In China not a single toad is wantonly destroyed.

One word as to the mode of preparing these meats so as to remove all feeling of repugnance. The animals, or quarters of animals, generally pass through the hands of the roasters, and these are the most celebrated in the world. They have fire-places so constructed that the fire is somewhat elevated; below, there is a



support, to which are attached strings with hooks; these carry the article to be roasted, and the roaster from time to time twists the string above, so that by its untwisting and twisting the piece may be turned. The meats thus prepared are minced with a knife, and converted into hash, the form in which they are generally eaten. A national sauce, called *sania*, is usually added, and rice serves for bread. On the tables of the rich, not less than thirty or forty such hashes are found, differing only in taste. One does not know what he eats. Dinner begins with preserved fruits, and rice has the honor of being the last mouthful.

The French use nearly all the shell-fish of salt water; the Chinese also eat those that live in fresh water and on land, such as muscles, &c. They have a species of monstrous snail—*voluto melo*—which is a favorite dish. \* \* The Australians devour the glutinous zoophytes which the sea throws up on their coasts; the Chinese employ them also, and by aid of gastronomic proceedings, make good soups. In this class may be mentioned the *tre-pang*—*Holothuria*—which are dried and salted. They delight in everything that is gelatinous, mucilaginous and cartilaginous; sharks' fins, their swimming bladders, which they call *fish stomachs*, the tendons of all animals, &c. All these are dried for purposes of alimentation.

Among the fish that are dried are some small ones caught by cormorants, which are employed by the Chinese fishermen. They are brought up with a ring soldered on the neck, which, being retracted, so closes the œsophagus that they can only swallow gelatinous materials. The fisherman carries several of the birds in the stern of his boat—setting them free on the sea, they plunge on the fish, seize and try to swallow it; but the ring preventing the passage of the fish, the bird returns to the boat to be freed from a body which is suffocating it, and the fisherman removes the fish.

In China there are some districts where the *arachnidæ* are a choice dish, and consequently the larvæ of insects—caterpillars of all kinds—are a common article of food. One deserves to be noticed—the silk-worm; the Chinese hatch more than they have leaves of the mulberry, ailanthus, oak, &c., to feed until they arrive at maturity, and all that cannot be fed are cooked and eaten. And here is something still more strange. The chrysalis of the cocoons are not lost; they are cooked, and form one of the prized aliments of the Mongolic race. A naval officer who had eaten them, said lately that they were quite good, and compared a plate of chrysalis to a plate of *maroons*. They also eat earth-worms, but only in times of great distress, considering them poor food.

Hatched eggs must not be omitted, nor confounded with putrid eggs; the former are eaten fresh, or preserved, cooked and salted. They are preferred when they contain the young animal almost ready to break the shell. Their duck-boats are decorated with cages which serves as a home for the ducks during the night, and with furnaces for hatching their eggs. As many as five thousand eggs have been hatched on some of these boats. The ducks are

set free during the day, feeding on what is found in the rivers, returning to their floating home at night. A portion of the eggs thus hatched is destined for reproduction, and another portion is devoted to sale as public food.

A few words are required as to the birds' nests. These are nests of a swallow which frequents the sea shore. It is found somewhat abundantly in the islands of Oceanica, Java, the Celebes, and the Molaccas, and along the Chinese coasts. Birds' nest soup is a luxury, if we may judge by its cost. Throughout China aphrodisaic virtues are attributed to it; in rich society, they endeavor to resuscitate passion by this food, which of course fails. These birds' nests have no other merit than that of containing about nine per cent. of nitrogen, which makes them nutritious and strengthening.

Many errors have prevailed as to the nature of this strange alimentary product. Some have said that the sparrow made it of a mastic that it prepared from the semen of the whale, obtained in the foam of the sea; others that it was formed from fish-spawn malaxated with saliva in its beak; others that it extracts this gelatinous substance from a species of Algæ or Lichen which it obtained on the rocks at ebb-tide. The truth is, that the nest is an immediate animal product of a peculiar kind—a species of mucous that the bird has the property of secreting in its beak, at the period of reproduction, in such quantity that it is able to construct its nest entirely of it. Payen calls this substance *cubilose*, from *cubile*, because it is produced by the sparrow for the preparation of a bed for its young. In studying carefully the internal structure of this white hemisphere glued to the rock, it is found composed of small filaments adhering together, and one is brought to the conclusion that the sparrow draws these out with its beak, like the silk-worm spins its cocoon. On account of this peculiarity in construction, the nest, (which is very hard), when dissolved in water and converted into soup, still shows one portion in the form of a very fine vermicelli, while the remainder has dissolved as a jelly, and furnishes a soup of the clear brown color of strong beef soup.

The bird first constructs an external envelop out of small yellow roots, similar to those of the millet that are found in the sands of the sea shore; then it forms the nest proper with its mucous, and it seems as if it drew out some of its feathers to decorate the interior, so that its eggs and little ones could rest on a soft and warm bed. These, like our own swallows, are fond of building their nests together; hence agglomerations of six, eight or ten are often found so enlaced by their envelops as to prevent separation.

In the crevices of rocks and cliffs these nests are built; sometimes caverns are found which are filled with nests accumulated for ages. A discovery of this kind is the discovery of a treasury. It is related of a wealthy Chinaman, who, after having been ruined, repaired his fortune by means of the discovery of a bird's nest cave, the contents of which were worth a million of francs. Indeed, the

article is so prized that in the years when most abundant it is sold at 100 francs per kilogramme.

All the nests are not equally pure. Those that are perfectly white, after being cleansed, contain only the mucus of the bird. But when the bird has been disturbed in its first construction, either by enemies, such as birds of prey, serpents, or man, or by tempests, accidents, &c., it has no longer sufficient of its proper secretion to construct another nest, and its instinct teaches it to employ the mucus as a species of mortar to agglomerate other substances, such as algæ taken from rocky banks, and hence the cause of the belief that the nests were made from lichens. These impure nests are used also, but they are cheaper, and not in demand.

In making the soup, 120 grammes (corresponding in amount to one nest, or a nest and a half,) are put in a half litre of water, and boiled for two hours. It is very pleasant to the taste, although having a peculiar aroma. Soup for one man would cost in China 12 francs. In Paris they have been sold at one franc a gramme, 100 francs a kilogramme; and soup for one man would cost 120 francs.—*L'Union Medicale*. L. H. S.

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### *Medicine and Surgery in China.* By M. G. PAUTHIER.

The practice of medicine and surgery is, in China, a very honorable profession, at the head of which is an Academy of Medicine, (*Tai i youan*.) located at Pekin. The object of the latter is to maintain, in all its integrity, the science of medical practice, which dates from 3,000 years before our era, and to direct those entering upon such a career. The members composing this Academy are 115, 15 of whom are imperial physicians, (*Yu i*.) 30 practitioners, 40 doctors of medicine, and 30 aspirants. The imperial physicians are, in turn, on duty near the emperor and imperial family. They are often dispatched by the emperor to attend upon princes, princesses, ministers of State, and other great functionaries, when his majesty hears that they are sick.

Chinese medicine divides all diseases in *nine* great divisions, as follows: 1, Those affecting the pulse violently; 2, Those affecting it moderately; 3, Diseases produced by cold; 4, Diseases peculiar to women; 5, Cutaneous and painful diseases; 6, Diseases needing bleeding; 7, Diseases of the eye; 8, Diseases of the mouth and teeth; 9, Diseases of the bones. The physicians seem to have a tolerably good knowledge of anatomy, if we dare judge by the plates contained in their books. Their physiology rests on the system of two principles, *Yang* and *Ying*, or the *strong* and *weak* principle; the *male* and *female* principle, whose *equilibrium* and *harmony* constitute the *normal state*, and the predominance of either a *diseased* condition. Semeiology seems somewhat advanced with them; the practice of medicine having been, so to speak, hereditary in families, observation of diseases has produced



the art of recognizing them, which has been pushed very far. I learn from several French missionaries, who have been treated by Chinese physicians in China, that these exhibited an extraordinary aptness in recognizing the external signs of disease. Observation of the movements of the pulse, on which they place four fingers of the hand, is carried much further than in Europe.

The practice of medicine is called "the benevolent art," (*jen chou*), and is placed second to the profession of literature, which is the first. The following are the conditions exacted from those wishing to practice medicine: a *celebrated practitioner* must be sought out as teacher, to learn the principles of the science and the properties of remedies; the best authors that can be secured must be studied. Such works are common and numerous in China. When the student has accomplished the study of the best medical treatises, and has followed for a sufficient time the practice of his patron, he can practice himself. There are no public schools in the empire where medical students take their degrees and are publicly received as doctors; the great college at Peking, and the academy alone, require examinations and confer diplomas on those who, desiring them, are recognized as worthy. The Chinese penal code provides for cases where ignorant men practice medicine with the sole idea of gain, and without the necessary knowledge.

"As for those who shall exercise medicine or surgery, (literally *internal* medical practice and *external* medical practice,) without understanding them, who shall administer drugs or operate with a piercing or cutting instrument contrary to practice and established rules, and, by such a course, shall have caused the death of the patient, the magistrates shall summon others of the profession to examine into the nature of the remedy employed, or of the operation performed, which has been followed by the death of the patient. If it is manifest that they can be accused only of having acted through error, and without the intention of injuring, the physician or surgeon can be freed from the punishment inflicted on a homicide, in the way adopted in cases of accidental killing; but they will be obliged to give up the profession absolutely."

"If it shall appear that a physician or surgeon has intentionally not followed the established rules of practice, and while pretending to conquer the disease he really renders it more serious, so that the cure may bring him in more money, the sum which he shall have gained in this way will be regarded as stolen, and the punishment will be proportioned to the fees that he has received."

"When a patient has died, and the physician or surgeon who has attended him, during the course of the disease, shall be convicted of having designedly employed injurious drugs, or of having done other injuries to his health designedly, he shall undergo decapitation, after having been retained in prison until the proper season."

The ordinary practice of medicine is principally based on very delicate and minute observation of the patient's pulse, on which curious treatises have been written. The rules of practice, recom-

mended to Chinese physicians, are comprised in these four words: *wang, wen, wen, thsiei*; *examine, listen, question, feel*. These words are explained in this way: 1. *Examine* the countenance or physiognomy of the patient; 2. Notice the sound of his voice by *hearing* him speak; 3. Question him as to the origin or cause of the disease; 4. Feel his pulse.

The most common *surgical operations* among the Chinese are scarifications and acupuncture, which is done by needles figured in their surgical treatises. They treat fractures by means of bamboo splints, after having restored the fractured portions to their proper place. They also use internal medicines, which, they say, possess the property of uniting bones.

As for the resources of the general therapeutics of China, in cities where Europeans reside, as Macao, Canton, Shanghai, Ningpo, Amoy, Hong Kong, these are nearly the same as in Europe, with some Chinese medicine added. The Chinese *materia medica* embraces, in some way or other, all creation. We learn from a treatise on this subject by *Li-chi-tchan*, in 40 vols., "all things produced in the world, birds, quadrupeds, insects and fishes, have power over the breath and the circulating blood; the same is true of flowers and trees, which, although possessed of life, are not supplied with either breath or venous blood; inanimate objects also, such as stones and metals, may be employed as therapeutic agents." The objects examined, in the Chinese book in question, are comprised in 1,871 genera or classes.

All the medicines employed by the Chinese are not prepared by licensed pharmacutists, but by those who have acquired knowledge in this kind of business—the herborists—who sometimes hawk their merchandise about.—*L'Union Medicale*. L. H. S.

FŒTUS CARRIED TWENTY-TWO MONTHS BEYOND TERM.—Dr. Storer exhibited a fœtus, which he had received from Dr. James M. Buzzell, of Springfield, and read a letter from Dr. B., giving an account of the case.

The mother, aged 42 years, had had five children by her first husband. A year after his death, in 1850, she was married a second time. After her second marriage she had several miscarriages, and in the month of November, 1857, she became convinced that she was again pregnant, from the quickening, and other usual signs of pregnancy which she then experienced. By great care on her part she went the full period of pregnancy before any symptoms of labor appeared. At the time she expected to be confined, her breasts filled with milk, and her nurse was obliged to draw them for several days. In the month of April, 1858, she was supposed to be in labor, and sent for her family physician to attend her. He had been skeptical in regard to the fact of her pregnancy, but on his arrival, supposed he had formed an incorrect diagnosis. The pains, however, were not constant or of much force, and soon sub-

sided entirely, never to return as true labor-pains, although she had at intervals, for two months afterwards, occasional attacks of pain in the sides, which finally ceased. She had menstruated some two or three times during the nine months of gestation, as had been the case with her once or twice before, during pregnancy, and afterwards the catmenia appeared at irregular intervals up to the time of her death, though the quantity was small. She enjoyed, to all appearance, good health up to October last, was fleshy, and capable of performing considerable labor. After the time of expected confinement, the size of the abdomen gradually lessened for about six months, when the *tumor*, as it was now supposed to be, was as large as a full-grown foetus.

In October last, she fell down a flight of steps, by which she received a severe shock. She afterwards complained greatly of pain in the back and bowels. Dr. Buzzell first saw her at this time. She had much fever, and great pain and tenderness of the abdomen, which made it impossible to make a satisfactory examination for two or three weeks. There was a severe cough which aggravated her pain. Nausea and vomiting occurred every two or three weeks. As soon as a favorable opportunity occurred, Dr. B. made an examination per vaginam, and found the os uteri entirely closed, and the cervix obliterated; the uterus forming a solid tumor, fixed and immovable by any pressure of the hand or finger. Four weeks after the accident a diarrhœa occurred, of a large quantity of offensive matter, which was not seen by Dr. Buzzell. The paroxysms of nausea and vomiting increased in frequency and intensity until her death, which took place on the 14th of February.

At the *autopsy* a very extensive adhesion was found between the fundus of the uterus and the small intestines, and also between its side and the sigmoid flexure of the colon. The Fallopian tubes and ovaries were found in their natural relations to the uterus. The uterus contained a foetus in the natural position for delivery, but no trace of a placenta could be found. There was about a pint of thick, yellow fluid in the uterine cavity. An opening in the left side of the uterus communicated with the interior of the colon, and the left hand and fore-arm of the foetus were passed into the bowel, as far as the elbow. Feculent matter had passed into the cavity of the womb. The os uteri was entirely closed, and no trace could be found of it upon the inside.—[*Boston Med. Jour.*

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DROPS OR MINIMS.—Notwithstanding all that has been said and written on the essential difference which exists between a “drop” and a “minim,” and the danger which must often arise from the use of the former in prescribing the more powerful fluid medicines, there is still much room for improvement. The subject was brought forward in a trial which took place at Lewes, in the Crown Court of the Home Circuit, before the Lord Chief Justice, on Monday



last. The prisoner, a young man named George Bull, was charged with the manslaughter of his mother. The deceased lady was 66 years of age; she was subject to violent fits of sickness, and the prisoner, who had been brought up to the medical profession, but was not in regular practice, was in the habit of prescribing to her small doses of prussic acid, of Scheele's strength. On Wednesday, the 11th of July, the prisoner procured a drachm of prussic acid from Mr. Roswell, a chemist in the town, and he administered to the deceased in the early part of the day a dose of four minims. In the evening the prisoner administered to her another dose of prussic acid; and the deceased had hardly time to go up to her bed-room when she became insensible and died almost immediately afterwards. Upon the bottle that had contained the prussic acid which the prisoner obtained from Mr. Roswell being examined, it was found to contain only twenty-five minims, thus leaving thirty-one minims altogether unaccounted for.

Mr. Scrase, of Lewes, the surgeon who had been called in to attend on the deceased, stated that the prisoner told him that he had given seven *drops* of prussic acid. In answer to questions from the Lord Chief Justice, Mr. Scrase observed that the size of the drop would be affected by the fact of the cork remaining partly in the bottle. It was his own practice to measure by minims; and, he observed, with such a deadly matter as prussic acid, it was not prudent for any medical man to rely upon drops; he ought to measure it. These, and some other observations on the relative strength of Scheele's and the *Pharmacopæia* acids, are what would be expected from a tolerably well informed and judiciously cautious medical man; but, in contrast, here is the examination of the druggist who sold the prussic acid:

“Mr. E. H. Roswell, a druggist at Lewes, deposed that on the 11th of July the prisoner came to his shop, and asked for some prussic acid, and he gave him a drachm. The drachm would contain sixty minims. He did not measure it, but gave what he considered to be one-fourth part of the bottle.

“Mr. Serjeant Ballantine: As you say you did not measure it, can you tell us how much prussic acid you really did give to this gentleman?

“Witness: I cannot say to a drop. I am sure he had fifty drops. I consider a ‘drop’ and a ‘minim’ synonymous terms. I gave the prisoner about the quantity, but when prussic acid is dispensed by a medical man, he is, of course, careful as to the quantity he uses.

“The Lord Chief Justice: We have been told that a ‘drop’ contains two minims, and this witness says he looks upon the two terms as synonymous.

“Mr. Serjeant Ballantine: If you were told to give a patient so many ‘minims,’ should you give him so many ‘drops?’

“Witness: Certainly not.

“Mr. Serjeant Ballantine: Can you tell us the strength of the acid you sold?

“Witness: I don’t know what strength it was. I should think about four per cent.

“Mr. Serjeant Ballantine: I am much obliged to you for your candid answers in reference to such an article as prussic acid.”

Here is a man who looks on the terms “drop” and “minim” as synonymous, and, when asked for prussic acid, pours into the bottle what he considers to be “about the quantity!” We presume that Mr. Roswell is not a member of the Pharmaceutical Society, or in the habit of reading their publications. If he had seen the number of the *Pharmaceutical Journal* for the present month, he would have seen that a writer therein has elaborately demonstrated the fact—of which many members of the medical profession are probably already aware—of the utter want of definite proportion between the drop and the minim, and the consequent impossibility of using them with safety as convertible terms in prescribing.

The writer referred to, Mr. Barnard Proctor, states that he has ascertained the number of drops equal to a drachm of various essential oils, etc. The results are most strikingly various. To make a drachm, 100 drops of croton oil are required; of oil of caraway, 98 drops; of oil of peppermint, 110; of oil of cloves, 90; of chloroform, 250; of tincture of digitalis, 96; of tincture of opium, 108; of creasote, 110; of hydrochloric acid, 45; of *dilute* hydrochloric acid, 65; of nitric acid, 72; of hydrocyanic acid, 54. The size of the drop, Mr. Procter observes, is not affected by the comparative fluidity of the liquid, or by the thickness of the lip of the bottle; but by the manner in which the dropping is performed. Fifty-four drops of hydrocyanic acid equalled a drachm, when each drop fell clearly from the lip of the phial; but if the stopper were not entirely removed, and the drop fell conjointly from the stopper and the lip, thirty-two drops filled the same measure.

The drop or minim question is by no means a small one. A life may depend on it; and, short of this, how is it possible for any one dispensing medicine by drops to have an idea whether he is doing too much or too little? Suppose, for instance, that he is using a new fluid preparation, of which he is told the dose is so many *minims*: how can he, if he have proper regard either to the advantage or safety of his patient or to his own reputation, administer it in that most latitudenarian measure, the *drop*!

We would call the attention of our readers to the importance of the difference between the drop and the minim, as a matter of scientific as well as of practical interest in medicine.—*British Med. Journ.*, July 28, 1860.

## Bibliographical Notices and Reviews.

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*Memoranda Medica ; or, note-book of Medical Principles. Being a concise syllabus of Etiology, Semiology, General Pathology, Nosology, and general Therapeutics. With a Glossary. For the use of Students.* By HENRY HARTSHORNE, A.M., M.D., Professor of the Theory and Practice of Medicine in the medical department of the Pennsylvania College. Philadelphia: J. B. Lippincott & Co., 1860.

In the preface the author says :

“The title of this volume is descriptive of its nature and purpose.

Its contents are, literally, *memoranda* of the most important points of the fundamental and introductory portion of the course of lectures delivered by the author in the department of the Theory and Practice of Medicine. It has been prepared under the conviction that, notwithstanding the excellence of the works upon the *different subjects* connected with Pathology and Practice, and the existence of several upon the principles of Medicine, yet no one text-book presents such a view of *all* the topics appropriate to this part of the course, as to form a brief, lucid, and *available* manual of *Medical Principles*.”

This is a neat duodecimo of near 200 pages. A cursory examination inclines us to believe that as a hand-book it is comprehensive in its scope, and well adapted to the intended purpose of the author.

H.

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*On the Diseases, Injuries, and Malformations of the Rectum and Anus, with remarks on habitual Constipation.* By J. T. ASHTON, Surgeon to the Bleinhim Dispensary, Fellow to the Royal Medico-Chirurgical Society, &c., &c. First American, from the third and enlarged English edition; with Illustrations. Blanchard & Lea: Philadelphia, 1860.

Diseases of the Rectum and Anus, are among the most common objects of attention in the practice of surgery. They are frequently, at the same time, the sources of very great annoyance and suffering



to their victim. The parts are, in some sense, peculiarly situated. The state of the rectum, its mechanical relation to its contents, is necessarily as variable as the state of these contents themselves. At times it is distended with hardened feces, and its venous circulation is thus interfered with. Then, in turn, it is thoroughly empty, and thus its veins deprived of a degree of support that is, perhaps, salutary, if not really necessary in sustaining that circulation.

A most obvious predisposing condition, it has often occurred to us, is to be found in the anatomy of the parts. The lower part of the rectum consists essentially of a hollow cylinder of muscular fibres, lined with mucus membrane, to which it is connected by the intervention of abundant cellular tissue, in which ramifies a delicate and complicate plexus of veins. These venous radicles especially are peculiarly situated. In one direction, they converge so as to constitute the superior hemorrhoidal vein, which, in its turn, empties into the inferior mesenteric, and thus into the great portal system. Furthermore, these venous radicles are essentially pendant. The whole portal system, the superior hemorrhoidal vein included, is destitute of valves. It is clearly perceived, accordingly, that we have the varying mechanical relations and conditions of the rectum, its dependent position, the length of the portal column, and the absence of valves in its veins, together with numerous and varying hepatic and intestinal obstructions, all tending to disturb, obstruct, and alter the structure of the venous hemorrhoidal radicles, and the other tissues of which the rectum and anus consist.

But this is not all. The act of defecation is effected at frequent intervals. In its very nature it is an expulsive effort, the tendency of which is to force whatever is situated at, or about the anus, into the external world. External to this plane of venous radicles is the muscular plane, of itself an efficient, if not even a powerful organ of expulsion. On the other side is only the delicate mucus membrane, which tends to extrusion rather than to give any adequate support. It is readily perceived that this combination of agencies is abundantly adequate to the frequent production of serious disorders. A careful consideration of these causes, too, in their constant and necessary operation will indicate the intractable character of many of these difficulties, and tend to explain why it is that mere medication is so frequently inefficient, and why radi-

cal surgical procedures are so frequently called for. Furthermore, in this view of the matter, it is not strange to us that many even of the later writers persist in describing hemorrhoidal tumors as mere varices, allied to varicocele as it affects the spermatic cord, or common varix as it affects an extremity. Whether they are, or are not, essentially varices, it is exceedingly difficult to contemplate them except as connected, more or less intimately, with this condition of the veins.

Diseases of the rectum and anus are essentially enhanced in importance from the sympathetic and contiguous relation of those parts to others. Thus, Hemorrhoids existing, the patient has dysuria or spasmodic stricture, as the result of it. Stricture of the rectum occurring to females, they have the indications of prolapsus uteri, and, perhaps, dysmenorrhea, or leucorrhœa. On the other hand, a male patient having stricture, hemorrhoids occur as a sequel. Or a female has displacement, or morbid alterations of the shape or size of the uterus, and presents the indications of stricture of the rectum.

But the most singular and interesting, if not the most important of these sympathies, relate to distant parts.

We once had a female patient who was treated for years, by a surgeon of eminence, for supposed organic disease of the heart. Our first few examinations failed to satisfy us that very obvious and troublesome cardiac symptoms which were present, had an organic origin. Accordingly, we were lead to make diligent search for some sympathetic cause. After very persistent endeavors in this direction, we drew from our patient a very unwilling admission to the effect that she had piles, and that feelings of delicacy had deterred her from informing her former attendant in regard to them. An examination, very reluctantly submitted to, revealed the presence of a small, but exceedingly sensitive hemorrhoidal tumor, which, for years, had been a source of torture. As the neck was small, it was unceremoniously removed with scissors, and was followed by a subsidence of the cardiac symptoms.

Brodie says: "A lady consulted me concerning a pain to which she had been for some time subject, beginning at the left ankle, and extending along the instep towards the little toe, and also in the sole of the foot. The pain was described as being very severe. It was unattended by swelling or redness of the skin, but the foot was tender. She labored also under internal piles, which protru-

ded at the water closet, at the same time that she lost from them sometimes a larger and sometimes a smaller quantity of blood. On a more particular inquiry, I learned she was free from pain in the foot in the morning; that the pain attacked her as soon as the first evacuation of the bowels had occasioned a protrusion of the piles; that it was especially induced by an evacuation of hard feces; and that if she passed a day without an evacuation, the pain in the foot never troubled her. Having taken all these facts into consideration, I prescribed for her the daily use of a lavement of cold water; also the use of Ward's paste (*confectio piperis composita*) three times daily, and some laxative electuary at bed time. After having persevered in this plan for six weeks, she called on me again. The piles had now ceased to bleed, and in other respects gave her scarcely any inconvenience. The pain in the foot had entirely left her. She observed that in proportion as the symptoms produced by the piles had abated, the pain in the foot had abated also."

But this is a long introduction to the brief notice, to give which was the object with which we started.

The arrangement of the author's work is sufficiently systematic. The book is divided into 20 chapters, the subjects of which are as follows:

Irritation and Itching of the Anus; Inflammation and Excoriation of the Anus; Excrescences of the Anal Region; Contraction of the Anus; Fissure of the Anus and lower part of the Rectum; Neuralgia of the Anus and extremity of the Rectum; Inflammation of the Rectum; Ulceration of the Rectum; Hemorrhoidal Affections; Enlargement of Hemorrhoidal Veins; Prolapsus of the Rectum; Abscess near the Rectum; Fistula in Ano; Polypi of the Rectum; Stricture of the Rectum; Malignant Disease of the Rectum; Injuries of the Rectum; Foreign Bodies in the Rectum; Malformations of the Rectum; Habitual Constipation.

Passing over the first four chapters, as not containing anything new in pathology, or peculiarly important in practice, we wish to note some practical features of the chapter on fissures of the anus. Eminent authorities in the profession allege that incision is the only effective remedy. This, indeed, has hitherto been the doctrine of the profession. Hence we are gratified to learn that the author's experience justifies him "in stating that in the majority of recent cases it is not necessary to have recourse to an operation."



As to his practice, he directs as follows: "If the fissure exists at the verge of the anus, and is of recent origin, the patient must be directed to have recourse to ablution with soap and water night and morning; after evacuating the contents of the bowels, half a pint of cold or tepid water should be thrown up; and when this has been ejected, a small piece of lint, saturated with the following lotion, or one of similar properties, must be kept applied to the part:

R Plumbi Acetatis, gr. x; Liquoris Opii Sedativi, m-xx; Aquæ Sambuci, ʒ iv. Misce.

When there is much spasm of the sphincter, the extract of belladonna, in the proportion of a drachm of the extract to an ounce of spermaceti ointment, or ointment of acetate of lead, is commonly successful in relieving the distressing symptom.

"At the same time that local treatment is being practiced, it will be necessary to attend to the state of the secretions and excretions, and to correct any error in the patient's habits and manner of living."

This failing, the repeated application of nitrate of silver is recommended, which, in its turn, failing, recourse must be had to a modification of the operation of Boyer, which consists in an incision through the ulcer. This incision need not be carried through the sphincter, as was practiced by Boyer, and as is still recommended by most of our standard authorities; but should only be carried to a limited depth, as recommended by Brodie and Syme, as this is all that is requisite to the most complete success.

The chapter on hemorrhoidal affections embraces 76 pages, and is quite full. It is an appropriate and rather full discussion of an interesting subject. The practice recommended is such as is ordinarily recognized by the profession.

The chapter on fistula in ano, although neither lengthy nor elaborate, is perhaps the most complete one in the book. It contains no novelties, but is up to the times. The author appropriately calls attention to the important fact originally pointed out by Sabatier, abundantly proved by M. Ribes, and confirmed by more recent observations and almost universal experience, that there is almost always an internal opening to these fistula, and that it is situated within five or six lines of the integumental margin.

This observation, almost universally assented to, has seemed to us to be wholly inconsistent with the theory of Brodie as to the

origin of anal fistula. This able observer supposes that fistula in **ano** commences as an ulcer of the mucus membrane of the bowel, extending through the muscular tissue into the surrounding cellular tissue. Irritation of this, by the presence of feces, &c., may either cause the ulceration gradually to proceed, or abscess to form; in either case fistula following, sooner or later, as the result. All this, however, is predicated upon the supposition that the inner orifice is situated at a considerable depth, at least above the sphincter muscle, where the feces are liable to be stopped, and where ulcers are usually situated. This assumption, however, is at variance with the facts in the case, as will be inferred from what has been said above.

As to the practice recommended for this disease, we have simply a judicious exhibit of that which is generally known and adopted. It is appropriately insisted that there is no necessity for incisions in the ordinary operation, beyond laying open the track of the fistula, from the point at which the internal orifice is situated.

But it is inconsistent with our limits, and certainly so with the intention with which we set out, to follow our author at any very great length. Cases, illustrative of the various diseases described, are abundant and apposite. The author's style is sufficiently clear, without being especially characterized by perspicuity. His sentences are occasionally lengthy to a fault, and consequently more or less involved. The book would have been saved this fault, in a great degree, by a more careful observance of the ordinary rules of punctuation. For the limited scope of the work, it is sufficiently full, without being elaborate. It is eminently conservative and safe in the practice which it inculcates. The publishers present it to the profession of the United States in a volume of 292 pages, in good clear type, on a fair article of paper. Indeed, the mechanical execution is in every way creditable. H.

*On Obscure Diseases of the Brain and Disorders of the Mind: their Incipient Symptoms, Pathology, Diagnosis, Treatment and Prophylaxis.* By FORBES WINSLOW, M.D., D. C. L. Oxon, etc., etc. Philadelphia: Blanchard & Lee, 1860; pp. 576.

This work, we are told by the Author, was originally intended as an Introductory Chapter to a treatise on softening of the Brain. The subject, however, so expanded itself before the mind of the Author that he concluded it would be more consistent with scientific analysis to publish his thoughts and researches in a separate volume.

The work is confined to a *resumé* of the incipient symptoms of the various forms of cerebral and mental disorder. There is but little said on the subject of therapeutics.

As is the fashion at the present day, the work is commenced with the aphorisms of the *Father of Medicine* :

“Life is short;” “Art long;” “The Occasion fleeting;” “Experience fallacious;” “Judgment difficult.”

These aphorisms apply with much force to the incipient stages of mental disorder. How often is it that the Time for recognizing and remedying premonitory symptoms is short? where in the whole domain of pathology is Experience more fallacious? where Judgment more difficult? What more common than to see friends neglect to call the attention of the physician to the early manifestations of cerebral trouble? For months often, phenomena, that, to one having ordinary skill in diagnosis, would be regarded as foreshadowing serious results, are totally neglected, or attributed to slight temporary causes. Dr. Marshall Hall, speaking on this subject, remarks :

“A useful work might be written on the subject of insidious and impending diseases with the view of making their first or antecedent symptoms known to the public, and of thus suggesting the care and means necessary to their removal.”

As an example of the aphorism, “occasion fleeting,” we extract from the work the following, not because it presents to the observing part of the profession anything novel, but because it should be kept before the mind whenever mental aberrations are present :

“A lady, apparently in excellent health, is riding with her brother in Rotten Row. While engaged in active and cheerful conversation, she suddenly complains of giddiness and sickness, and becomes deadly pale. A few minutes afterwards it is found that she could not articulate. She is carried home and soon becomes unconscious and dies on the following day.”



Again :

"A literary man, while speaking at a public meeting, is suddenly seized with an uneasy sensation in his head. He says it feels 'as though it would burst,' 'as if the brain was too big for the skull.' He returns home, becomes apoplectic and dies on the evening of the day."

Sir Wm. Ellis, Superintending Physician to the Hannell Co. Lunatic Asylum in 1833, thus speaks of the sad consequences that result from the neglect of recognizing and treating insanity in its early stages :

"It is a melancholy fact that on a most careful personal examination of each of the 558 cases now in the house, there do not appear more than 50, who under the most favorable point of view can be considered curable. This is to be attributed almost entirely to the neglect of proper remedies in the early stages of the disease \* \* Diseased action is allowed in the great majority of cases to proceed unchecked until diseased *organization* has taken place, and the patient has become incurable."

The importance of the above suggestions is so manifest, that it is unnecessary to multiply them. All who have any experience in the treatment of the insane, agree that 80 per cent. of recent cases are curable, while old cases, are, as a rule, beyond the reach of remedies. This difference in favor of recent cases is attributable mostly to two things: easier diagnosis, and absence of structural lesions.

The author analyses his subject in the following order :

- "1. *Morbid Phenomena of Intelligence.*
- "2. *Morbid States of Motion.*
- "3. *Morbid Conditions of Sensation.*
- "4. *Morbid phenomena of the special senses, viz : Sight, Hearing, Taste, Touch, Smell.*
- "5. *Morbid Phenomena of Sleep and Dreaming.*
- "6. *Morbid Phenomena of Organic Life, viz : Digestion, Circulation, Respiration, Generation.*
- "7. *General Principles of Pathology; Treatment and Prophylaxis.*"

The brain being the organ of thought, the material instrument of Intelligence, it would seem to be a very philosophical mode of reasoning to refer mental aberrations of all kinds to faults of structure. Still, in the present state of knowledge, we are without the authority to do this. On the other hand, cases repeatedly occur in which serious diseases of the brain during life, such as softening, abscesses of its structure, induration, have been attended by no unusual symptoms, no alterations, no impairment of function whatever. Such cases are pathological curiosities, in the estimation of our author, and are the exceptions, not the rule.

The author affirms :

"That in every case of disease of the encephalon, particularly if the organic change or pressure be established in the vesicular matter, or in the membranes immediately investing the brain, a disordered or abnormal state of cerebro-psychical phenomena may be, in the incipient stage, detected."

The author, in considering the *psychical* section of his subject, commences with : "1. *Exaltation*; 2. *Depression*; 3. *Aberration*; 4. *Impairment*;" "conditions of unhealthy Intelligence which exhibit in their origin, progress and termination, a variety of shades and degrees of disturbance and disease commensurate with the nature, extent and position of the cerebral lesion."

The premonitory symptoms of insanity, although of prime and incalculable importance to the therapist, are by no means free from complexity. Exaltation and depression, for example, are normal within certain limits; beyond these either one of them may indicate the incipient stages of insanity. Also, aberrations or impairment of the faculties arise so frequently, and from such a variety of causes, and subside so constantly without remedies, that they do not receive the attention to which they are entitled.

The state of the mind called *ennui* has generally been supposed to be one of *brain rest*. Those, however, who have paid attention to the exact character of the sensations connected with it, will discover that a very striking fallacy is involved in such a conclusion.

"It is, in many cases, an active condition of the mind unaccompanied by the pleasurable, and consequently healthy gratification usually associated with ordinary emotional excitement. \* \* \* A mind *ennuied* may unconsciously be occupied in the contemplation of mentally distressing, and physically laborious and depressing thoughts. Let us, therefore, not flatter ourselves with the illusion that a life of idleness and inactivity is one of repose, rest and freedom from painfully perturbed thoughts. How true it is :

'A want of occupation gives no rest ;

A mind quite vacant, is a mind distressed.'

In chapter III., under the head of Premonitory Symptoms of Insanity, the author asks the questions : "*What is Insanity?* What is the constitution of the *materies morbi*; the exact condition of the moral and intellectual faculties, emotions, instincts, or passions, during, to use the significant suggestive language of Coleridge, '*the mind's own revolt upon itself*?' Is insanity an affection of the mind *per se*? Has the disease a psychical or a somatic origin? Is it possible for thought, in the abstract, to be diseased, independently of images occupying the consciousness? Does alienation of mind depend not exclusively upon a psychical or somatic cause, but

upon a disturbance in the normal relations existing (in states of cerebral and mental health) between the mental and physical functions of the brain?"

Before endeavoring to answer any of the above questions, the author proposes another batch :

"What is mind? Have we any knowledge of its *nature, seat, mode of action*? How does the mental principle, believed to be eliminated in the gray matter of the brain, become so mysteriously and marvelously changed from *nerve* to *mental force*, and *vice versa* in the hemispherical ganglia? What is the nature of the *vis nervosa* of Haller? \* \* \* Is the mysterious and undefinable '*fluid*' or '*force*' circulating in the nerve tubes, a voltaic current?"

We confess our inability to see the propriety of most of the above questions. It is scarcely necessary to say to the tyro, even, that all such questions are avoided by many who understand themselves. What mind is, or what its relations are to the body, are questions that human beings, until differently capacitated, have no business with. In physical and psychical science we know nothing of essences or intimate nature; all that we can know relates to sensible qualities, to phenomena. In commencing the discussion of "the premonitory symptoms of insanity," we regard the author, therefore, as having obtruded unnecessarily such thread-bare subjects. The question, "What is Insanity?" of course is very properly introduced, and the same may be remarked of the inquiries relating to the faculties, emotions, etc., impaired; and such would have been sufficient.

In the chapter relating to the "*confessions of patients after recovering from insanity*," the author presents very much that will interest those engaged in the study of psychical and somatic phenomena. What, indeed, more instructive than accounts embodying a faithful record of the sensations of a lunatic, given by himself after having recovered from his disease! And although a portion of what is related has necessarily to be taken at a discount, yet a new field is thus opened by which the departments of pathology and diagnosis will be enriched.

"The mind is 'one and indivisible.' A part of the intellect cannot be affected without to a certain extent influencing and modifying the whole of the operations of thought, nevertheless there are in derangements of the mind occasional lucid moments, when the patient is conscious of his state of disorder, and is able to describe his sensations clearly to those about him."

We have no space for the autobiographies with which the chapter before us abounds. They are numerous, and most of them from the pens of patients in the upper orders of society, and on this account are reliable.



The chapter "*On the State of the Mind*" when recovering from an attack of insanity is deeply interesting. The period during which the mind is passing from the *insane* to the *sane* condition varies in length very much. In some cases reason is restored very suddenly to its sovereignty; in others the mind gradually and imperceptibly awakens into the state of healthy consciousness. A patient states: "I felt as I was recovering, the delusions gradually losing their hold on my fancy. I then began to entertain doubts as to their reality. I felt disposed to listen to the judicious advice of my physician. I was no longer irritated in being told that my perceptions were false." Another patient describes his state when recovering as follows: "During the whole of my illness, which lasted for eighteen months, I always fancied myself surrounded by a dark cloud. \* \* Knew no difference between day and night. \* \* I date the commencement of my recovery from the time when this mysterious darkness began gradually to fade away. \* \* When I saw things through a clear and sunny atmosphere, my happiness and peace of mind were restored; in other words, I was well."

Perhaps the most knotty of all the subjects brought to the attention of the reader is the boundary line between sanity and insanity. "How imperceptible and shadowy are the gradual transitions from a state of health to one of disease?" When do the mental states called singularity, oddity, eccentricity, cease to be normal? When is it that anger, depression of spirits, melancholy, ungovernable and untrainable habits become evidence of incipient insanity? Or in other words, where the limits of healthy thought, emotion, passion?

"In its incipient stage, mental disorder is characterized generally by acute morbid sensibility, physical and mental, accompanied by a difficulty in fixing the attention. \* \* \* At an early period, the patient complains of being very ill and exclaims that he is losing his senses, often pertinaciously asserting that his mind is not his own. \* \* \* The man remarkable for his caution and circumspection, becomes reckless, extravagant and imprudent. If orderly and economical, he is confused and prodigal. If noted for his preciseness, he exhibits great carelessness and negligence. If gay and communicative, he is sullen and morose."

This work, we may say in conclusion, will prove to be a very valuable accession to our literature on the subject of Insanity. It discusses subjects but little dwelt on in the ordinary treatises, and they happen to be the very ones of most importance. A work, indeed, which facilitates our acquaintances with the early symp-

toms of insanity and throws additional light on diagnosis, is just what in this age, when the subject is receiving so much attention, is needed. Physicians are, from the nature of their calling, generally called upon as "*experts*" in cases of supposed insanity. And in this position it is very commonly the case, that almost every thing turns upon their evidence. They will therefore find this volume very rich in material that will assist them in almost every emergency.

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*The Principles and Practice of Modern Surgery.* By ROBERT DRUITT, Lieutenant of the Royal College of Physicians London; Fellow of the Royal Medical and Chirurgical Society, of the Medical Society of London, etc., etc., A new and Revised American, from the eighth enlarged and improved London Edition. With four hundred and thirty-two Illustrations. Philadelphia: Blanchard & Lea, 1860. pp. 695.

This has always been a favorite work. As a hand-book, for students it has taken a high rank; while from its lucid style and the vast amount of matter compressed within a small compass, it becomes also a very acceptable *vade mecum* to the practitioner.

In the present edition the author has endeavored to replace old and doubtful matter by new; and this he has done without scarcely any increase in the bulk of the work.

The additions of new matter relate to Inflammation, Cancer, Gun-shot Wounds, Diseases of the Eyes, Syphilis, Anchylosis, Ovariectomy, and the Ophthalmoscope.

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*The Obstetric Catechism, containing two thousand and three hundred and forty-seven Questions and Answers on Obstetrics proper.* By JOSEPH WARRINGTON, M.D. One hundred and fifty illustrations. Philadelphia: J. B. Lippencott & Co., 1860. pp. 445.

This volume is designed for students, and we should think, from an examination of its contents, that it is a meritorious production. The student, indeed, will find it *multum in parvo*. There is scarcely a subject that concerns either the *Art* or *Science* of midwifery but what is explained so as to be easily comprehended.

*Theory and Practice of Midwifery.* By FLEETWOOD CHURCHILL, M.D., M.R.I.A., Fellow of, and Professor of Midwifery and Diseases of Women and Children in the King and Queen's College of Physicians in Ireland, etc., etc. With Additions by FRANCIS CONDIE, M.D., Fellow of the College of Physicians of Philadelphia, etc. With one hundred and ninety-four Illustrations. A new American, from the Fourth Corrected and Enlarged English Edition. Philadelphia. Blanchard & Lea, 1860. pp. 655.

The scope and general character of this Treatise is such as to adapt it to the use of the student and practitioner of midwifery. The edition before us has been carefully revised by the author, and made to embrace every improvement that has been developed in modern times.

This edition contains one half more matter than previous ones, and notwithstanding the use of smaller type, the number of pages has been increased nearly two hundred.

## Editorial and Miscellaneous.

BRIGHAM HALL, CANANDAIGUA, N. Y.—A report from this Hospital for the Insane has been placed on our table, and appears to merit a passing notice. In the spring of 1855 three individuals united in an association for the purpose of establishing a hospital for the treatment of the insane, and the enterprise has proved quite successful. From the opening of the institution to the first of September, 1860, there have been 166 patients admitted, of whom 40 have recovered. Forty were discharged improved, 19 unimproved, and 10 have died; 48 remain under treatment. The deficiency of accommodations in the State institutions have been frequently presented. Those unable to find places for afflicted friends may turn their attention to this place. The hospital is under the care of GEORGE COOK, M.D., and JNO. B. CHAPIN, M.D., son of Mr. WILLIAM CHAPIN, formerly Superintendent of the Ohio Institution for the Blind. Patients are received on a medical certificate of insanity and the execution of a bond for support.

NEW YORK GAZETTE.—The editor of this print, we see by the October No., dies hard. He confirms, however, the old adage: "The ruling passion strong in death." *Peace to his manes!*



*Time and mode of occurrence of the greater part of the shortening which follows oblique and over-lapping fractures.*

For a number of years past, our observations have strongly impressed us with a belief that our surgical text books and surgical teachers, would do well to observe a distinction, as to the length of time treatment should be continued in the larger oblique, and those transverse fractures in which there is reason to suspect the existence of over-lapping, as compared with transverse fractures where there is something near a perfect adjustment, and where, consequently, there is no over-lapping.

A little reflection will render the propriety of this suggestion obvious.

It is believed that all our works concur in representing that the new bond of union is such that pressure is capable of materially modifying deformities, of correcting angles, &c., at the end of the ordinary period of treatment, and for a time after it. In other words, it seems to be generally conceded that pressure is capable, to a greater or less extent, of producing the absorption of the plastic material, and consequently, of altering the relation of the newly united bones to each other.

Now, apply what is thus admitted to the circumstances attending a well reduced and well retained transverse, as compared with an over-lapping or very oblique fracture.

In transverse fractures, if reduction and retention have been quite successful, at the end of about 40 days, more or less, we drop our means of extension and counter-extension, and very soon, if a lower limb is involved, more or less weight is borne by it.

Reduction and retention, in the case supposed, having been quite perfect, the fractured surfaces are maintained, more or less perfectly, in contact with each other. In these circumstances, according to the current professional opinion, there is poured out a minimum quantity of plastic material. It is deposited in the medullary canal, between the ends of the bones, and upon any offsets there may be. When our mechanical appliances are thrown off, we give up the parts to a constantly exerted and unrestrained muscular action, which now tends to approximate the articular

extremities of the bone, with a great degree of constancy and efficiency. The use of the part does the same thing, partly by the pressure incidental to such use, but mainly by the increased muscular action which it brings into requisition.

In these circumstances, however, no shortening results. Pressure on the articular extremities of the broken bones, such as both muscular contraction and the use of the limb produce, being exerted in, or nearly in the axis of the bone, tends only to force its fractured surfaces together; and though this may have the effect to diminish the amount of the intermediate callus, it can have no tendency to force the bones asunder, but tends rather to bring them into more intimate contact, and thus, perhaps, to increase the strength of the recent union.

But suppose there is over-lapping, and the patient is subjected to treatment for the same length of time: admit, too, which is very doubtful, that an equal strength is attained in 40 days. The bond of union in this case is effused in maximum quantity; lies between the bones, around them more or less, and on their ends, so as to occlude the medullary canal. What, in these circumstances, and from these considerations, will be the effect of pressure from the use of the limb, or of the much more constant and efficient pressure consequent upon unrestrained muscular contraction?

It strikes us that the answer is obvious. Pressure upon the articular extremities, such as use and muscular contraction effect, is indirect pressure upon the still frail plastic material, and can not fail, if it produce the ordinary effects of pressure, to change the relation of the bones, making them gradually to glide upon each other, thus increasing the over-lapping and shortening. Hence, the necessity of resisting muscular action, and suspending the use of the limb—of continuing treatment, in other words, for a greater length of time, than in the first class of cases. Hence, too, the necessity of guarded prognoses in this class of cases.

A little reflection is sufficient to show that these facts and arguments apply with scarcely less force to very oblique fractures, with the best possible adjustment, and perhaps, with cumulative force to those cases in which, though the fracture may not have been oblique, nor the bones allowed to overlap, but in which the fragments are bent out of axis, forming an angle at the seat of fracture.

That this is not a mere matter of theory we have proved, in a limited number of cases, by carefully instituted measurements,

made at various periods. In an over-lapping, or very oblique fracture, the amount of shortening at the end of fifty days may be a half an inch. *At the end of twelve months, without accident or violence to account for it, the shortening, in the same case, may reach from one to two inches.*

As a practical matter, accordingly, if, when swelling has subsided, the surgeon has the mortification of finding a fractured femur over-lapping, or united at an angle; or, if from the first, there are the indications of great obliquity, the surgeon should be exceedingly careful not to discontinue the use of splints, or allow his patient to use his limb, till there are the most unequivocal indications of firm and reliable union; and not even then till he has carefully informed his patient in regard to ultimate results.

The point we wish distinctly to present is, in a single sentence, that *the shortening which is usually present after fracture, is, in many cases, largely secondary; occurring after the ordinary period of suspending treatment, in a gradually diminishing rate of progression, which may occupy many months, or even a year or two.*

We invite the attention of surgeons to this matter, as being both surgico-legally, and practically important in its bearings.

H.

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Dr. O. C. GIBBS, of Frewsburg, Chautauque co., N. York, a most exemplary worker in his profession, proposes to issue a *Year Book of American Contributions to Medical Science and Literature*. It is designed to present summaries of all original articles found in American journals, or the published proceedings of societies, &c.

The work will contain from 500 to 1,000 pages, and will be furnished at \$3.00. He solicits the early forwarding of the names of subscribers—payment to be made only on the publication of the work.

All books, journals, published transactions, and names of subscribers, should be directed to him, at his place of residence, as above indicated.

We are gratified with the opportunity of commending his undertaking to the profession.

H.



THE proprietors of the Journal usually send out bills to their subscribers with the first number of each volume. On account of general complaints of hard times, and the prospect of improvement, we did not send out our usual missives with the September issue. As the good time, long hoped for, has arrived, we send bills with the present No., and hope for "material" responses without delay. The Journal has a small indebtedness. One thirtieth of what is due would wipe it out. Shall we have it?

The bills are not for delinquencies merely, but for the current volume also.

If any mistakes occur in these bills, we will, of course, make proper corrections, on being informed of them.

H.

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DIPHTHERIA.—In our private correspondence, and our personal intercourse with physicians, from almost every quarter we hear of Diphtheria. We are accordingly much gratified with being able to present our readers several valuable contributions on the subject. It is prevailing in a mild form, but quite extensively, in this city. We saw a case in the town of Dublin, a few days since, in consultation with Dr. Marshall, where the Diphtheritic deposit was confined to the vagina and labia, with inflammation of the integument, lymphatic ganglia, &c., of the groin. We are informed of another case of the same kind in Delaware county, and of another in the same neighborhood, in which it appeared on a blistered surface. Dr. Beach, whose communication we publish elsewhere, informs us that in one case his patient took diarrhœa, and died within a few hours with symptoms closely resembling cholera. We had another just such, the patient dying two or three hours after the diarrhœa commenced.

Dr. Beach brought a case for our advice about six weeks since, in which there seemed to be more or less paralysis about the pharynx, with imperfect control of all the muscles about the throat, so that speech and deglutition were very imperfectly performed. There were also some tingling, impairment of sensation, &c., about the hands and feet. The sequel may be learned from the following extracts of a letter received from the Doctor on the 22d ult.:

"The young man you saw a month since does not improve at all. Both he and his sister (aged 16) are nearly helpless, so far as

the lower extremities are concerned. They can both walk, but it is difficult for them to get into a carriage, or get up steps. The girl seems to have lost the use of the muscles that pull the thigh forward, as her walk is more a dragging of the feet than anything else. She complains of no pain, but extreme weakness about the hips. The numbness has diminished in both cases. Both have excellent appetites, have gained flesh, and have recovered their natural tone of voice. They seem *well*, excepting the want of power about the legs, and a slight œdema of the feet and legs, and possibly the face. The girl has not menstruated since the first illness, three months ago. The boy has a feeling of aching along the spine, but no tenderness on pressure. Treatment has been: iron and strychnine, shower bath, friction along the spine, exercise," &c.

We are aware that the facts which we mention above are not particularly novel. They are mentioned for the purpose of fixing attention upon the varying aspects of the disease, and of interesting physicians in the subject. We will be under special obligations to our friends if they will continue to forward us the results of their observations.

H.

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PRESENT SESSION OF STARLING MEDICAL COLLEGE.—The numerous friends of this Institution will be gratified to learn that the present session is commencing under unusually pleasant auspices. The number of students already in attendance, although the preliminaries are hardly through with, is several more than the average of the full attendance for several years past. Last year the class was an advance of 30 per cent. on previous years. The present class is an advance of full 30 per cent. on the class of last year, and includes a very large proportion of it.

We take the liberty, in behalf of our colleagues, to express the hope that no physician will visit our city without calling at our lecture rooms.

As to the character of the class, we have only to say, that it is the most intelligent, decorous and promising one we have ever seen.

H.

THE MAN THROUGH WHOSE HEAD AN IRON ROD PASSED STILL LIVING.—All who are old enough to have been readers of medical journals in 1848, will recollect the case of the man Gage, through whose head passed a tamping rod, three feet seven inches in length, an inch and a quarter in diameter, and weighing  $13\frac{1}{4}$  pounds.

A few months ago we had occasion, in some clinical remarks, to make mention of this remarkable case, in which we stated that, though the man survived, we were not informed as to the mental and general condition in which the injury left him.

Dr. Henry Trevitt, of Valparaiso, South America, who was present, at once replied to our remark that he knew Gage well; that he lived in Chili, where he was engaged in stage driving; and that he was in the enjoyment of good health, with no impairment whatever of his mental faculties.

Dr. Harlow, of Cavendish, Vermont, in whose practice the case occurred, described the wound as commencing just anterior to the ramus of the inferior maxillary bone of the left side, taking a direction upward and backward toward the median line, passing through the left anterior lobe of the cerebrum, and making its exit at the junction of the coronal and sagittal sutures; lacerating the longitudinal sinus; extensively fracturing the frontal and parietal bones; breaking up a large portion of the brain, and protruding the globe of the left eye from its socket by nearly one-half its diameter. A full account of the case was published in this Journal for January, 1848.

H.

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BEQUESTS.—The late Hon. Jonathan Phillips, of Boston, has bequeathed to the Massachusetts General Hospital and to the Massachusetts Medical Society each ten thousand dollars, and to the Charitable Eye and Ear Infirmary and to the Boston Dispensary each five thousand dollars, and twenty thousand dollars to the city of Boston, to be expended in adorning the streets and public squares—*Med. News*.

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MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISIANA.—Prof. Lawson, of Cincinnati, has been appointed Professor of Clinical Medicine in the Medical Department of the University of Louisiana.



MEDICAL PATENTS AND OUR NATIONAL CODE OF ETHICS.—On the cover of the *Boston Medical and Surgical Journal*, we notice the advertisement of "*The Uterine Elevator—Patented January 23, 1860,*" and invented by John A. Wadsworth, M.D., of Providence, R. I. This advertisement contains the joint certificate of twenty-six individuals with M.D. attached to their names, thirteen of whom have their names also recorded on the list of Permanent Members of the American Medical Association.

Turning to the Code of Medical Ethics of the Association, we find under the general head—"Of the duties of Physicians to each other, and to the Profession at large," and under the special head—"Duties for the support of professional character," the following important clause:

"4. Equally derogatory to professional character is it, for a physician to hold a patent for any surgical instrument or medicine, etc." Also: "It is also reprehensible for physicians to give certificates attesting the efficacy of, patent or secret medicines, or in any way to promote the use of them."

Can the inventor of this wonderful instrument, (which requires only to be *looked at*, to be pronounced the best), the gentlemen signing the certificates, or the editors of the journal advertising, put their hands on their hearts and say, we do no wrong? For shame on the whole transaction! Will the American Medical Association permit her *members* thus to violate their first great duty to her?—*N. O. Med. News.*

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PROTRUSION OF BONE BY GROWTH FROM THE END OF A STUMP.—When limbs have been submitted to amputation in childhood, it not unfrequently happens that, as the individual grows, so does the bone elongate itself in a proportionate manner, and then protrudes through the soft parts, after a time forming a conical stump. Instances of this kind we have already brought under the notice of our readers; and that the bone does grow is believed by many surgeons of high authority, amongst whom are Mr. Stanley, Mr. Curling, and others. An undoubted example of it was recently admitted into Guy's Hospital, under Mr. Hilton's care. The patient was a healthy-looking girl, of about the age of eighteen years, whose right arm had been amputated in childhood. The stump healed kindly, and remained healthy for some years, when it gradually

became conical, and from the point protruded the end of the humerus. Its appearance was like an exaggerated nipple somewhat drawn out. There was no retraction of muscular substance here, but clearly an outgrowth of bone. The soft parts were tender in spots, as if from the pressure on or stretching of some of the nerves; in fact, they could be marked by pins. The rest of the stump was healthy. Chloroform was given on the 24th of July, an incision was made on either side, freely laying open the stump, and three inches of the bone sawn off; the parts were brought together, and the girl is now doing very well.—*Lancet*, Aug. 11, 1860.

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THE METALLIC SETON IN HYDROCELE.—Several cases have lately been treated at the London Hospital by the introduction of the silver wire seton, and with very satisfactory results. The following case, however, in which severe suppurative inflammation of the cavity was caused, is one which it is only right should be placed on record: The patient, Wm. C., a healthy man, aged 32, was admitted in May, under the care of Mr. Gowlland, with hydrocele on the right side. Mr. Gowlland had tapped him three months previously, while attending as an out-patient. It had now filled again, and was about the size of a small fist. The man stated that he thought that side of his scrotum had been larger than the other since boyhood, but that there had been no remarkable enlargement until January last. Mr. Gowlland admitted him, and on May 3d tapped the tumour, and injected with iodine in the usual manner. The sac refilled, and as the man was impatient for a cure, on May 28th—that is, nearly a month after the injection—Mr. Gowlland introduced a silver wire seton consisting of two threads. On the next day the inflammation of the part was very acute, and the pain severe. The man had also a good deal of abdominal tenderness. On the third day the inflammatory symptoms ran so high that it was necessary to withdraw the wires. On May 31st, the swelling being very great, and suppuration having evidently taken place, Mr. Gowlland laid the sac freely open by a vertical incision, three or four inches long. This measure gave great relief; but for a time it appeared doubtful whether the testis itself would not become involved, as the tunica albuginea presented in the wound. Ultimately the man made a good recovery, but he had undergone a very serious illness. He was discharged from the hospital eleven weeks after

his admission, the cicatrix being then quite sound, but puckered up and adherent to the front of the testis. The body of the testis itself was soft, and appeared quite healthy. The hydrocele was of course cured.—*Med. Times and Gaz.*, Aug. 25, 1860.

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**CHOLERA IN SPAIN.**—According to late reports this epidemic is now committing terrible ravages in several southern districts of the Peninsula. For example, at Malaga 2,267 deaths took place by that malady, from the 1st of May to the 29th of June last; of whom a large proportion were young persons. Accounts further state that, along the Mediterranean coast—at Motril, Adra, and Almeria, the disease has proved very prevalent; as likewise in Granada and Jaen, but especially at a place called “Gualchos,” where 178 deaths occurred during the first six days the malady broke out, while only two cases recovered. It has more recently attacked the inhabitants of Baylen, which is on the great highway to Madrid; where, however, public health is said to be at present satisfactory. In consequence of this outbreak of pestilential cholera in Andalusia, much terror prevails amongst the population.—*Lancet*, July 28, 1860.

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**AMPUTATION AT THE HIP JOINT IN A YOUNG CHILD.**—A very healthy child, aged fifteen months, was admitted the other day into the London Hospital, having had his left thigh frightfully crushed by the wheel of a brewer's dray. There had been very profuse hemorrhage, and the child was collapsed and scarcely conscious. The soft parts being lacerated so high up that there was no possibility of performing amputation below the hip-joint, Mr. Ward at once placed a ligature on the femoral artery below Poupart's ligament, and then proceeded to exarticulate the shattered member. Scarcely any blood was lost during the amputation. The child, however, remained in spite of the freest use of stimulants by injection, etc., in a state of collapse, and death took place a few hours afterwards.

On examining the limb the femoral artery and veins were found torn across. The sciatic nerve and its branches were entire, though much bruised. There was a complete separation of the



epiphysis of the lower extremity of the femur. The knee joint had been laid open extensively in front, but the crucial ligaments were entire, and had prevented a complete luxation. It may be doubted whether amputation at the hip-joint has ever before been performed in so young a subject. The precaution which Mr. Ward took of first placing a ligature on the femoral artery is a very important one.—*Med. Times and Gaz.*, July 14, 1860.

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PRESERVATION OF THE HIP JOINT BY THE REMOVAL OF DISEASED BONE.—A most instructive case of apparent hip-joint disease, in a married woman, twenty-three years of age, was admitted into University College Hospital in February. The patient was a delicate, pale, and emaciated person, who had been sent up from Kent to have the hip-joint excised. She had been the subject of strumous disease in early childhood, particularly around the ankle-joint, which had caused shortening of the affected limb. In other respects, her general health was not bad. About two years ago, she complained of pain in her right hip-joint, which was shortly after followed by an abscess on the upper and outer part of the thigh, simulating hip-joint disease. The abscess burst, and there remained a fistulous aperture just below the insertion of the tensor vaginæ femoris muscle, leading apparently to the hip-joint, but in reality not so. On careful examination, under the influence of chloroform, the mobility of the joint was found to be perfect, as it could be freely moved in every direction, with an absence of any grating sensation. The head of the thigh-bone was in its natural situation, and the shortening of the limb was clearly the result of the ankle disease in early life. A probe entered into carious bone, but not into the joint itself, and the disease appeared to be limited to the great trochanter. There was no evidence of its extension within the capsular ligament, although very close to the joint.

If left to itself, Mr. Erichson believed that the disease would extend upward to the articulation, and he therefore had no hesitation in endeavoring to remove the affected parts of the bone. This case, he observed, resembled a class of cases very commonly met with—namely caries of the cancellous structure of the head of the tibia, wherein the morbid action extended very close to the encrusting articular cartilage, but which latter escapes if the disease

is removed in time, and the knee-joint is left intact. On laying open the parts, after chloroform was given, the condition suspected was found to be present. A cavity existed in the great trochanter, which was well cleared out by means of Marshall's osteotrite; but the disease actually extended some way up the neck of the femur, and was entirely removed, leaving a clean, smooth, hard and healthy surface behind. This cavity was an inch and a half in depth. The posterior and outer edges of the trochanter were removed with forceps. The wound was now stuffed with lint, and the patient removed to bed.

The diagnosis was therefore proved to be correct, and the best measures resorted to for the woman's safety. Free suppuration followed, the wound slowly filled up by granulation, and by the 28th of March it had entirely healed, excepting a single fistula passing behind the trochanter. The back of the thigh had been supported by a paste-board splint, and the patient was sitting up, much improved in her general health under the use of cod-liver oil and quinine, with unimpaired mobility of the joint.—*Lancet*, July 28, 1860.

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**DISTINGUISHED MEDICAL MEN.**—In the ranks of general literature and science, British Medicine is rich at the present time in representative men—Sir Benjamin Brodie, President of the Royal Society; Livingstone, the pioneer of civilization in Central Africa; Owen, the British Cuvier; Darwin the far seeing, fact compelling, naturalist; Lever, the Irish novelist; Sir James Kay Shuttleworth, the public educationist; Sir Charles Nicholson, founder of the University of Sydney, and the first inhabitant of the great colony of Australia, honored with rank and title by the mother country. May the possessors of these names long survive to reflect credit on us, do honor to themselves, and good in their generation! Nor can we omit our need of admiration for our French *confrere*—Lescaarbault, who amidst the distractions and fatigues of a country practice, last year could yet manage to discover a new planet in the heavens, and so inscribe his own name imperishably on the scroll of astronomic fame.—*Dr. Radclyffe Hall*.—*Lancet*, Aug. 25 1860.

# FOURTEENTH ANNOUNCEMENT OF LECTURES OF STARLING MEDICAL COLLEGE.

FOR THE SESSION OF 1860-61.

COLUMBUS, O.

THE next session of Starling Medical College will commence on Thursday, October 18, 1860, and will be continued until the 1st of March.

The Dissecting rooms for the study of practical Anatomy, will be open from the commencement of October.

The Museum of the Institution has been made very attractive by late receipts from France and Germany.

The College building is in complete order, the east wing having been entirely completed.

## FACULTY:

S. M. SMITH, M.D.,

Professor of Theory and Practice.

FRANCIS CARTER, M.D.,

Professor of Obstetrics, and Diseases of Women and Children.

J. W. HAMILTON, M.D.,

Professor of Surgery.

JOHN DAWSON, M.D.,

Professor of General and Special Anatomy and Physiology.

S. LOVING, M.D.,

Professor of Materia Medica, Therapeutics and Medical Jurisprudence.

THEO. G. WORMLEY, M.D.,

Professor of Chemistry.

R. N. BARR, M.D.,

Demonstrator of Anatomy.

## F E E S :

Tickets of all the Professors, . . . . .	\$60 00
Matriculation Ticket, paid but once, . . . . .	5 00
Graduation Fee, . . . . .	20 00

Subjects for dissection in the building, furnished at a moderate expense, on application to the Demonstrator of Anatomy, *and in no other way.*

There are two extensive Bookstores in Columbus, at which Medical works in great variety are sold at very low rates. Surgical, Obstetrical, and Dissecting instruments are readily obtained.

All letters of inquiry will receive prompt attention, if addressed to any member of the Faculty, or to S. M. SMITH, *Dean.*



# OHIO

## MEDICAL AND SURGICAL JOURNAL.

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### Original Communications.

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*Trial for Poisoning by Arsenic.* Reported by WM. WATT, Student of Medicine at Starling Medical College, Columbus, Ohio.

About the first of May last, Peter Priest, defendant, in company with Joseph Saul, deceased, left Franklin county, moving west to Paulding county, Ohio. On the second day of their journey Saul was taken sick, but traveled on until he arrived at Kenton, Hardin county, where he died, and was buried by Priest. Priest then proceeded on to Paulding county. But suspicion being excited he was, in May last, arrested on a warrant issued by Benjamin Eglin, a justice of the peace in Kenton, and brought back to that place, and on the examination before the justice, was committed to jail to await the action of the grand jury. At the October term, 1860, of the court of common pleas, Judge Lawrence presiding, the grand jury presented a bill against him for murder in the first degree. And at the special term of the court, called for the purpose of trying this and other criminal cases, commencing December 3d, he was tried and acquitted.

The following report is condensed from a large amount of testimony, covering in all, over a hundred pages:

J. N. Absten, Prosecuting Attorney, C. H. Gatch, Esq., and W. H. West, Esq., for the State, and A. S. Ramsey, Esq., and James Kernan, Esq., for the defense.

A statement of the grounds relied upon by the prosecution, and which they expected to prove to make out their case, was presented

to the jury by Mr. Gatch, and a statement of the defense by Mr. Ramsey. In Mr. Ramsey's statement he said they expected to show that the poison, if administered to the deceased at all, was administered by one of the witnesses for the State.

On motion of defendant's attorneys, the court ruled that the witnesses for the State should be examined separate and apart, excepting Prof. Wormley by consent of counsel.

*Dr. Baughman examined.*—I live in Franklin county, was acquainted with Joseph Saul there. This witness testified that he was present in June last, at the grave yard near Kenton, in Hardin county, where a body was exhumed, which he recognized by a large wart on the right side of the nose, to be that of Joseph Saul. The surface of the body was mortified, the skin discolored, the stomach and bowels were much inflamed, and there was a yellowish deposit on the liver and some portion of the bowels. Didn't know that the yellowish appearance was produced by arsenic. He said the deceased was a temperate man, weak minded, and of no business capacity. Priest told witness that he had agreed to keep Saul his lifetime for his property. At time of this conversation with Priest, Saul owned some ten acres of land, on which he lived at the time of his wife's death, and when Priest came to live with him.

*Wm. Latty examined.*—Testified that he had known Saul thirty-five years, that he recognized the body at the exhumation to be Saul's, that Saul's health had always been good. That he lived on  $9\frac{3}{4}$  acres of land at the time his wife died, which was in February last, and that Priest came there to live about that time. Saul had other property besides the land, a wagon, two horses and harness, two or three cows, and some hogs, and household goods. Didn't know whether Saul was in debt.

*Geo. Ridenour examined.*—Testified to about the same as last witness.

*Dr. A. W. Munson examined.*—I was present when a body supposed to be Joseph Saul's, was exhumed. Dr. Hance, Coroner Church, and some others were present—it was about the 13th of June last. The coroner summoned me to go and hold a *post-mortem* examination of body supposed to be Joseph Saul's. An examination was had. I opened the body, took out the stomach, a portion of small intestines and a portion of the liver with the gall bladder attached. These parts had a peculiar, yellow appearance or hue about them, and were much inflamed. The effect of arsenic, or

arsenious acid, upon the human system, irritates the surface of the stomach, &c. If taken in small doses of one or two grains, it would produce death in one, two, or three days; if taken in larger doses it would do it in a few hours. If used in doses of one-tenth to one-twentieth of a grain, two or three times a day, it might not produce death at all, for arsenic is not an accumulative substance—these two last quantities are ordinary doses. I brought the stomach, intestines, liver and gall bladder, taken from the body, to town to my office, put them in a clean glass jar, sealed it up and labeled it, and delivered it to Coroner Church. The jar was put in a little box and addressed to Prof. Wormley, Columbus, Ohio. I recognize this jar and box as the ones spoken of.

*Cross examined.*—The inflammation was not greater than in cases where death results from inflammation of same degree, but there was a peculiar yellowish tint about the liver and down the intestines a piece. My opinion was that there was enough diseased action in stomach to produce death. Couldn't say there was evidence of foreign substance sufficient to cause death. It was my impression at time of exhumation, that there was something very peculiar about the case. The stomach and surrounding structure presented that peculiar yellowish appearance which would be evidenced by the action of sulphuret of arsenic upon animal tissue. This yellowish hue might have been the result of the *post-mortem* change. If arsenic acid had been present in the stomach at the time of death, the sulphuretted hydrogen gas which would be generated upon the decomposition of the structure, would act chemically upon the arsenious acid, producing sulphuret of arsenic which would impart a yellowish appearance to the surrounding structure.

*Horace Church examined.*—Testified to exhumation—identified the jar and box as those sent to Prof. Wormley by express.

*Prof. T. G. Wormley examined.*—(Box presented to witness to examine); on the 14th of last June, in afternoon, the express agent at Columbus, Ohio, delivered to me at my laboratory, a box which I here recognize. It had placed upon it a letter, which was tacked over two or four screws which secured the top of the box, in such manner that the box could not be opened without removing the letter. This letter was directed to my address, at Columbus, Ohio. I locked the box up in my laboratory, and it remained there till June 20th untouched. On the morning of that day I removed it to the laboratory of Starling Medical College, and there opened



it. I found it to contain saw dust, in which was packed a bottle about this size, and bearing a similar label. The bottle contained some animal matter and some fluid, which when taken out and examined proved to be a human stomach, to which was attached a portion of the small intestines; it also consisted of apparently a portion of human liver with gall bladder attached. I immediately prepared to submit these parts to analysis, using the stomach and portion of small intestines for one series of investigations, and the portion of liver and gall bladder for another.

I will now detail the analysis of the gall bladder and liver. In connection with the condition of accompanying organs, the liver was in a comparatively good state of preservation; it was tough, and cut with great difficulty with scissors; the gall bladder was whole, but had apparently been very much inflamed; it contained about two teaspoonsfull of thick fluid. These organs (the liver and gall bladder), were introduced into a large porcelain dish and there acted upon by distilled water, which was mixed with about one-sixth of its volume of hydrochloric acid; the mixture was then boiled for about three hours, with the gradual addition of small portions of chlorate of potash; by this time the whole mass became fluid—that is, the organs had all dissolved. After the mixture cooled it was filtered through muslin, and then through filtering paper; it was then allowed to stand about twenty-four hours, when it was again filtered through paper. The solution had then passed into it sulphuretted hydrogen for twenty-four hours; at the expiration of this period there was quite a marked deposit having a dark yellow color; this was filtered from the solution, and may have consisted of the sulphurets of arsenic, mercury, antimony, tin, or some other metals or organic matter. This residue was acted upon by a few ounces of pure ammonia, which would have dissolved the sulphuret of arsenic if present, and some organic matter: it might also have dissolved a small portion of sulphuret of antimony, if present. The other metallic sulphurets would not have been dissolved. This ammoniacal solution was then filtered to separate foreign matter; the solution was then evaporated to dryness, and then treated with strong nitric acid, and evaporated to dryness. The residue was then mixed with caustic soda, and carbonate of soda, and then heated and again nitric acid added, and again heated. It was then dissolved in a small quantity of

water and some concentrated sulphuric acid added, then evaporated to dryness and strongly heated. It now left a white residue. The organic matter being entirely destroyed the residue could now only consist of arsenic, antimony and salts of soda. This residue was acted upon by a small quantity of pure water, which could dissolve the salts of soda and the arsenic but not the antimony. Under these circumstances the arsenic would be in the form of arsenic acid. It was now filtered and a stream of sulphurous acid passed into the solution; this would change the arsenic into arsenious acid, which is the state most favorable for the application of the reagents. To a small portion of this solution hydrochloric acid was added and then a stream of sulphuretted hydrogen. This immediately produced a yellow precipitate, which could possibly have been nothing else but the sulphuret of arsenic, as tin and cadmium would have been separated by previous manipulations. I here present the liquid with its precipitate, that is, the portion or residue. This is sulphuret of arsenic. Reinsch's test was then applied. The other is known as the sulphuretted hydrogen test. A portion of the liquid was acidified with hydrochloric acid, and heated to boiling; then small slips of clean copper were introduced into the boiling liquid; these immediately became coated with a gray metallic covering; some of these I here present, with a slip of the copper not used, as a sample. This deposit, under the circumstances, could have been nothing else than metallic arsenic. There were twenty of those slips of copper thus coated; a few of them were introduced into a small tube and heated to redness; immediately a ring of crystals were volatilized or sublimed against the side of the tube in the form of crystals. I here present the tube with rings. This confirms beyond the possibility of doubt that the deposit upon the copper was metallic arsenic.

Marsh's test: A small portion of the original fluid was introduced into Marsh's apparatus, and the jet of gas lighted, which burnt with a white, smoky flame. A piece of cold porcelain was then depressed into the flame, and this immediately received a metallic deposit. I present two pieces of this porcelain here. These, under the circumstances could have been nothing else than arsenic; one of these spots was acted upon by the hydro-sulphate of ammonia, and it was not dissolved. Antimony, under the same circumstances, would have been dissolved. Another spot was acted upon by bleaching salt of lime—it was dissolved; antimony would not have dissolved.

I come to second part of Marsh's apparatus. The horizontal portion of the tube through which the gas was passing was heated to redness, and immediately there was a metallic deposit produced behind the point heated; this could have been due, under the circumstances, to no other substance than arsenic. 3d confirmation of Marsh: The gas was passed into a solution of nitrate of silver; it immediately produced a dark precipitate from which the liquid was filtered, and proved to contain arsenious acid. All these three reactions of Marsh's test prove beyond a doubt the presence of arsenic.

Ammonio sulphate of copper test: To a portion of the original fluid ammonio sulphate of copper was added, and it immediately produced a beautiful green precipitate, known by the name Scheel's green, being a compound of arsenic and copper. These are all the tests applied to the liver and gall bladder.

I will now detail the analysis of the stomach and small intestines. The two openings into the stomach were tied, when cutting the organ open the internal surface showed signs of extensive inflammation and disorganization, more especially that portion toward the small intestines, which was very much ulcerated, the mucous membrane being in some places entirely destroyed. This inflammation also extended into the small intestines. The stomach and small intestines were cut to pieces and treated in precisely the same manner as has been detailed in regard to the liver and gall bladder. The same test being applied to the resulting solution with the same results, indicating the presence of arsenic; but not in as large quantities as found in the liver. There was a fifth test applied to this solution. It was the ammonio nitrate of silver; this produced a yellow precipitate which indicated the presence of arsenic. These five tests constitute the principal tests relied upon by chemists for the deduction of arsenic. Each one under the conditions applied proved by itself the presence of arsenic. The ordinary mode of ingress of arsenic is through the mouth and throat into the stomach; it is taken up by the blood and carried to different portions of the body, and partly deposited in these portions. This is more especially true of the blood that passes through the liver. I cannot say how much arsenic was in these parts, from the fact that there was no estimate of the quantity, because it would have consumed so much of the material as to preclude the application of some of the important tests. The largest quantity was found in the liver; this would show that the arsenic had entered



the circulation, and was diffused through all the organs of the body, so that nothing short of an examination of the whole body would suffice to show the quantity of arsenic present. My profession is that of a chemist and physician; am not a practitioner of medicine. Have been a Professor of chemistry about nine years, in Capitol University, and part of that time in Starling Medical College. The symptoms of arsenic introduced into the stomach are pain in the stomach, vomiting and purging; vomiting is usually very continuous, the pain in stomach very severe extending down into the bowels. These are the more prominent symptoms of poisoning by arsenic, but there are individual cases where some one of them are not found. The appearances after death are more constant and uniform than the symptoms, the action of the poison being confined to the mucous membrane of the stomach; this is true though the arsenic was introduced into some other portion of the body than by the mouth. The action on the stomach is inflammation of the mucous membrane. This extends down into the bowels and intestines. Sometimes the stomach may have a yellowish appearance; this might be due to the production of yellow sulphuret of arsenic. All the re-agents and apparatus used in this examination were known to be absolutely pure beyond a doubt. The liver was in comparatively a good state of preservation, considering the time. Arsenic is a preservative of animal structures—used in preserving anatomical specimens. I presented the arsenic here exhibited as the production of the results of examination. It could not possibly have come from any other source than the stomach.

The amount found in the stomach, &c., would be unsafe to take as a dose—it would be less than an ordinary fatal dose—about three-fourths of the liquid obtained was used in the examination which gave these results. About one-fifth or tenth of the whole liver was used. Not able to state, from what arsenic I received, the whole amount of arsenic in the man, but the quantity found in liver was about equal to that found in the liver of an individual that I examined, whose stomach contained half an ounce of arsenic. This results from the fact that the arsenic can not get to the liver direct from the stomach. It is taken up by the blood and the liver gets more than its normal share—it passes off in various ways.

There was enough arsenic found in the tissue of this liver to indicate that enough arsenic had been introduced into the system to produce death. I was assisted, during this entire investigation, by

Wm. Watt of this place, who acts as my assistant. None of this material was ever in his possession. I retained it in my room locked up.

*Cross examined.*—From the quantity of arsenic found in this body, couldn't say how long it would take to produce death. The symptoms and effects seem to have little or no relation to the quantity taken when it exceeds about two grains. Authors cite a case in which 40 grains proved fatal in fifteen hours; in another case 480 grains did not prove fatal for seventeen hours, and in another over 500 grains did not prove fatal—it was thrown off. Mooted question, whether the habits of a man, will effect the result of the quantity of arsenic taken. If taken in quantities, in themselves not fatal, it would depend upon frequency of doses. Arsenic will not accumulate in the system; it is not an accumulating substance. A man may take repeated doses without producing poisonous effects. The symptoms of sickness will appear in from two to four hours—some cases immediately, others in eight or ten hours. In this case, I should expect the poisonous dose would show its effects in from a half to one hour. Death generally takes place in from twenty to thirty-six hours. My re-agents *might* have contained arsenic, but they were examined and tested, in this special case, and were pure, they contained no arsenic. Great care was taken that it could not be introduced extraneously. No one had access to them when I was not by. Arsenic is not a normal constituent of the body. It may be found in earths and grave yards. The first usual symptom is dryness in the throat, then sickness of stomach, with pain and the suddenness with which it comes on, &c. These symptoms may exist without arsenic, and arsenic may exist in the stomach without all these symptoms. It would be a rare case to find all these symptoms independent of the presence of arsenic. Arsenic is destitute of taste; I could never experience any—have taken as much as was safe to take. Chemists understand by arsenic an elementary substance, but the popular name of arsenic is given to arsenious acid. The arsenic upon the copper here is pure arsenic; the other is arsenious acid.

*Dr. Wm. Watt examined.*—Was present when the analysis was made by Prof. Wormley.

*Dr. J. F. Hance examined.*—Was present at the exhumation of body—recognized the body to be Joseph Saul's, whom I had seen

at Mrs. Higby's. First saw Saul on Thursday, May 3d last, about dusk. Met defendant in the yard—went in to see Saul. Asked defendant if they had a doctor. He said *he* had been after me, but could not find me, and got Dr. Steyer; that Dr. Steyer had left two or three powders, but that he had not given powders to Saul, because Saul was afraid to take them. Found Saul much prostrated and laboring under gastro-intestinal irritation. Told Priest I thought the old man would die before morning. Priest seemed to be alarmed. I prescribed a cathartic. Priest went with me to get the medicine—told him to get some herbs and put warm application to his bowels, and bathe him. Told Priest I would not go back till morning, but I went back about ten o'clock. There was no light in the house. Found Saul about the same. Didn't know whether the medicine was given or not. The application was not made to his bowels. Saw Saul again Friday morning—he seemed to be sinking, with much pain. Left more medicine. Saw him that afternoon again. Don't know whether the medicine had been given or not. Saw him again that night, and next morning when I saw him, he was dead. When I was there first, Priest said he had given old man some whiskey. There was something in a cup on the chair by the bed—don't know whether it was the medicine I ordered.

*Dr. C. Steyer examined.*—Was called to see a sick person at Mrs. Higby's in afternoon of May 3d. Told them he was in a dying condition. Left some powders. Told them to let me know next morning how he was. They said old man was sick on the road—that he had been vomiting and purging.

*Henry Ridenour examined.*—Live in Franklin county. Have known Saul since boyhood. Was present last spring when Saul sold his land. Saul left neighborhood soon after. He got \$550 for his land. \$200 went to Sterret, and \$350 in notes to himself. Priest came back to Saul's soon after the land was sold.

[Several witnesses were here examined showing contradictory statements made by defendant as to the death of Joseph Saul, and the relation he sustained to him.]

*John Rice examined.*—Last time I saw Saul, was the day before he left Franklin county with the defendant for Paulding county. He was in good health. About the 15th of April last, Priest said to me—"If you get any more of Joe's property, you may take



him and keep him. I'll keep the balance." He also said he was to have Saul's property for keeping him.

*Cross examined.*—Old man ate dinner at my house that day with my family. Did not give him any sweet cakes.

*Geo. Koontz examined.*—Saul and Priest were at my house the Saturday evening before they started for Paulding county. Priest traded me the notes for \$350 for some horses. Priest said he was to have the notes for keeping the old man. They were the notes Saul got for his land. I saw Saul next morning about sun up—he was well, and was driving a team. Priest went along afterwards, driving the team he got of me.

*Z. A. Connell examined.*—In January last Priest and Saul came to my shop to have a note drawn up from Saul to Priest, for \$208. Priest said it was for work done by his wife for Saul before she was married. While Saul was out, Priest said he had made a bargain with Saul to keep him his lifetime, for his personal property. He also said, at old Joe's death he would get the rest of the property, and he said, *that would not be long because he would fix him!*

*Uriah Hone examined.*—I saw old man Saul four or five days before he left. I had a conversation with Priest about old man's property. He said that he wanted to get it, that the old man would give it to him. I did not learn how he got it. Priest told me if he could get the old man out West, he would get his property without law or justice. I heard him say that he would be the death of the old man if he didn't turn him over the property.

*John Saul examined.*—The deceased was a brother of mine. He was 68 years old, and was always a temperate man.

*Mahala Dix examined.*—I lived with old man Saul when his wife died. Priest came to live there before I left. Priest said to me one day, he didn't think it would be any harm to kill Mr. Saul. I said it would be as much harm to kill him as any one else. He said he didn't think it would.

*John Starrett examined.*—Was acquainted with Joseph Saul since 1819. He was a temperate, weak minded man. I bought the ten acres of land for him, and paid for it out of his money. I think Priest was living in house with Saul when Saul sold the land.

*John Huff examined.*—Had conversation with Priest before he left for Paulding Co., about Saul's property. He told me if he didn't get away soon he couldn't take the old man at all. He said the old man was hardly fit to live amongst white folks; that he

was particular in his victuals, and was not satisfied with same as the rest of the family; that he wouldn't eat anything but cakes and pies, &c., and that he (Priest) couldn't afford to keep him. He said that it would be too bad for a nigger wench to 'tend to the old man under the circumstances that he was in. I told Peter he knew the old man's circumstances before, and that it would be too bad to leave the old man alone now. Peter started away with the old man in a couple days after this talk.

Several other witnesses were called, showing inconsistent statements of prisoner at the time of Saul's death.

*Henry Brandorff re-called.*—When I went to bury Saul Priest said old man had some complaint (rupture), and needed to wear a truss. Said old man took sick on Monday. He said the old man wanted to get the bowels back, and when he got them back he felt a pain in them, and thought there must be something bursted inside.

*Cross examined.*—Priest didn't say that the old man said Peter had pushed them in wrong, but that there must have something bursted.

The State rested, and the witnesses for the defense were called.

In regard to the evidence on the part of the defense, suffice it to say, that the witnesses all testified that Priest had at all times used the old man in a proper manner, and had at no time administered him any drugs or medicine.

There was no evidence implicating any of the witnesses belonging to the State, as was spoken of in the commencement of the trial by the defense.

The jury after being charged retired; after the elapse of an hour they returned a verdict of not guilty.

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*Surgical Clinic of Starling Medical College.* A Clinical Lecture on Necrosis, delivered Saturday, Nov. 24, by J. W. HAMILTON, Professor of Surgery.

The word mortification means the death of a part. In the use of the term, however, we ordinarily restrict its application to those cases of death in the soft parts in which a perceptible, or even considerable mass, dies simultaneously. Those cases in which death

occurs to soft parts in molecules, and such parts are thus disintegrated, we call ulceration. To the naked eye, and hence to ordinary observation, the products of ulceration do not consist of recognizable constituents of the ulcerating tissue. The recognition of these requires the most delicate chemical and microscopic tests. In mortification, on the other hand, death occurs on so extensive a scale, that the dead part is a perceptible, or even a large mass, and is called, especially when it is of moderate extent, a *slough*.

When death of bone occurs by molecules, the disease is apt to be persistent, gradually attacking successive portions, and is called *caries*. When death of bone occurs in a large mass, it probably occurs simultaneously in every part of that mass, and is called *necrosis*, while the dead part is called a *sequestrum*. It is thus seen that the words mortification, ulceration and slough, and the words necrosis, caries and sequestrum, as ordinarily used, have much the same import; the former being applied to soft, and the latter to hard parts. Necrosis, as compared with caries, is usually a disease of laminated or hard bone: while the latter is ordinarily situated in the cancellous or spongy parts of bones: hence, necrosis ordinarily occurs in the shaft, and by preference in the exterior portion of the shafts of long bones, as the tibia, femur, ulna, radius, and humerus; while caries is situated in the central parts, or near the articular extremities of long bones; or more frequently still in the flat and irregular bones, as those of the pelvis, spine, tarsus, corpus, scapula, &c.

When necrosis is confined to the superficial part of a bone it is called *external*; when it is confined to the interior of the bone, as to that part of a long bone which is next to the medullary canal, it is called *central*; when the entire shaft, for a greater or less part of its length, dies, it is called general *necrosis*. The same terms are used to designate sequestra.

*Causes.*—Occasionally bone dies from the application of very intense causes, in a direct way. Extreme heat, and possibly cold, may thus cause the death of all the tissues, including the bone of a part, as a hand or a foot. Again, in certain injuries, as a compound fracture, portions of bone may be nearly separated from all surrounding hard and soft parts, yet maintaining vascular connections and a grade of vitality that are overcome by slight inflammation; the result is entire loss of vitality, necrosis, that is to say, within a short time after the reception of the injury. The amount



and kind of injury that bone will tolerate, is an interesting and important inquiry. Much depends on the mode and degree of implication of the periosteum and endosteum. Either of these investments may be destroyed, provided the other is spared, without very serious consequences. Both being separated, it could only be in very peculiar circumstances that the bone would survive. They maintain a peculiar and interesting supplementary relation, the one to the other. The periosteum being removed, the endosteum becomes more vascular, succulent, and thicker. The endosteum being separated the periosteum undergoes similar changes.

When, after injuries, the surface of bone is exposed it should be the object of daily and careful attention. As long as it is white and dry, and presents a sharp ring from the contact of a metallic probe, serious apprehensions for the vitality of the part may be entertained. Sooner or later, perhaps, the surface loses its white appearance, becoming brown, soft. Ceasing to ring from the application of the probe, it becomes sensitive, and bleeds from being touched. All serious apprehensions may now be laid aside; the periosteum is being reproduced, and the vitality of the bone will almost certainly be maintained.

Two years ago I was called in the night season to see a man living in the eastern part of this county, by the name of Randolph, who had just had a difficulty with his team. While his horses were running rapidly he was thrown with great violence upon a Macadamized road, and a wheel ran over his head, in such a way as to make a straight, clean separation of the scalp, on a line corresponding very perfectly with that on which we saw through the bones of the skull in separating the calvarium. It was separated for full three-fourths of its circumference, bareing the whole of the superior part of the skull most perfectly, leaving but very imperfect traces of the pericranium. The whole was covered with dirt, and the patient was intoxicated. After cleansing the parts, the scalp was replaced and secured by a few silver sutures. I did not see or hear from this man again for several months. At the end of that time I was informed by a physician of the vicinity, that, after a very tedious time, the particulars of which he could not give me, the patient recovered, and, as he believed, without either necrosis or caries.

The more common causes of necrosis are to be found in those circumstances and conditions which produce otitis. I do not pro-

pose to enter into the enumeration of them. They are much the same as the causes of inflammations in the soft parts. The precedent condition of the necrosis is the osteitis. Considered, then, as a distinct disease, it is the result or event of a preceding disease—inflammation of bone.

A fact that can not be too distinctly perceived is this, that while necrosis, including all its incidents, is almost necessarily a chronic process, occupying months or years, yet the precedent inflammation may have been exceedingly acute; occupying but a very few days. I might give you a number of cases exemplifying this; let one suffice. The specimen I here adduce is a striking example of general necrosis, implicating several inches of the tibia. The boy from whom this was removed, was attacked with acute osteitis in February last. I first saw him in consultation two weeks after the attack. Several openings had already been made. Through these, it was ascertained that a large part of the tibia was already denuded and dead; and from the history of the case there was every reason to suppose the bone had been in that condition for several days.

It is well enough to bear in mind that, while the inflammation which results in necrosis usually originates in the bone, yet it sometimes originates in the surrounding soft parts, and extends to the periosteum and bone secondarily. This is well exemplified in the case V, which will be given hereafter.

At the time death occurs in the inflamed portion of bone, it is in a state of physical continuity with the living bone. Processes are, at once, instituted, for the double purpose of extruding the dead bone, and of providing a substitute. These processes are modified in adaptation to special circumstances. Suppose the necrosis is external, the process will be something as follows: ulceration is instituted on the line of junction of the dead and living bone, but of course *in* the latter. Thus the living, is gradually separated from the dead bone, at every point of contact, while sinuses in the soft parts admit of the discharge of the ulcerative debris. Granulation occurring at the bottom of the chasm, it has the double tendency to restore the symmetry of the original bone, and to assist, more or less, in extruding the sequestrum. The sequestrum is now lodged amongst the soft parts which are condensed more or less from inflammation. If it is smooth, not very deeply situated, and of moderate size, it will perhaps eventually be dis-

charged. Till it is discharged, or removed by operation, it will necessarily enact the part of an organic foreign body, producing more or less of inflammation, and suppuration, and maintaining the sinuous openings.

An external sequestrum, thus separated, has characteristics which enable you readily to recognize it. One surface, generally convex, is smooth; a perfect specimen of the exterior of the bone implicated. Its margins are rough, jagged, and more or less irregular. Its deeper aspect is either of the same character, or concave and more smooth; being in fact the medullary aspect of the bone implicated. The specimens before you abundantly illustrate these characters.

In central necrosis, the mode of separation is much the same as in the external variety. But here it is obvious that nature, at all events in a large proportion of cases, can do but little towards filling the chasm; for the reason that extrusion is so difficult and improbable. There nature's efforts are pretty much confined to enlarging, and condensing the diseased bone, thus providing for its strength. Some days since, you recollect, I operated in a case of central necrosis of the humerus, removing a sequestrum of five inches in length. The bone was greatly enlarged, and as hard as ivory; requiring the extensive use of the trephine. In such a case as that, and it is believed in many of these cases of central necrosis, spontaneous extrusion of the sequestrum would never occur, because of the small size and firmness of the opening through the surrounding original bone.

A central sequestrum presents characters appropriate to its class. In such you never have the smooth exterior of the original bone. Its external and lateral surfaces must be more or less rough, the result of the irregular mode of death and separation. The deeper surface is usually concave and more smooth, corresponding to the medullary surface of the bone. You have before you three good specimens.

In general necrosis we have a most interesting, important, and salutary conservative effort, adapted to the circumstance of the case, in a most peculiar manner. You have four specimens before you—one of the femur, one of the humerus, and two of the tibia. As illustrating the subject most satisfactorily, let us take this specimen of general necrosis of the tibia, already alluded to. Several inches of the tibia are dead, and are included in this sequestrum.



It is nearly eight inches long, but only implicates the entire diameter of the bone for a couple of inches. Here are several facts to be observed. It does not implicate the articular head of the bone; the epiphyseal head of the tibia, either not having been involved in the inflammation, or having been involved in a minor grade of it, survived. Observe, furthermore, that though several inches of the bone are dead and separated, yet there is still the semblance of a tibia left: a substitute bone is forming. This commenced to form, no doubt, as soon as the original bone perished; and as the latter must necessarily, for a length of time, remain in situ, the substitute bone is necessarily thrown around it. Hence, in the outset, it is greatly expanded, being large enough to invest a bone of normal size. You see, too, these several openings through the substitute bone, for the discharge of ulcerative debris. These are called *cloaca*.

The processes of separation and substitution, in such a case as this, go on *pari passu*, as a common fact: so that usually the slight amount of use the patient is able to make of the diseased limb, does not seriously endanger it. But occasionally substitution does not keep pace with separation; and then a very slight circumstance may cause fracture. This actually occurred in the case before you. You see the specimen is wired together at the point of fracture. The process of separation was already completed, and considerable progress was already made in the way of substitution; but a slight mis-use of the limb produced this fracture and rendered amputation necessary.

In this second case of general necrosis of the tibia, we have sequestra from traumatic necrosis, involving the whole diameter of the tibia for about an inch and a quarter. These sequestra were detached from the bone above and below in a compound fracture, and perished after a few weeks from the insufficiency of their connections with the soft parts. There was no opportunity for the formation of substitute bone. Nature met this emergency in a striking and peculiar manner. The fibula was unbroken. Gradually a kind of ligamentous union between the ends of the separated tibia occurred. Then the fibula commenced to curve out opposite to the chasm. As its length was reduced by its curving out, the fractured surfaces approached each other, and the ligamentous bond was abbreviated. I last examined the case two or three years after the accident. The fibula was then greatly curved, and the

two fragments of the tibia were in juxtaposition, with every prospect that they would soon be firmly united by bone. Partly from the strength of this union, and partly from enlargement of the fibula, the patient for months had already used his limb with but little more limping than belonged to the shortening present.

In the specimen of general necrosis of the femur, which I here present, the principal thing calling for special remark is the diminished length, and size of the bone. About this sequestrum, lodged near to its middle, it is expanded more or less. But everything else about it marks it as an imperfectly formed bone. It is several inches shorter than its fellow; and its head and neck are imperfect. The entire leg to which it belonged was too short, and the greater part of it was too small. The muscles about the thigh had undergone fatty degeneration. The necrosis occurred in very early life. I believe that when it is general, and occurs thus early, these effects, if the disease persist through a series of many years, are inevitable.

The history of the process of substitution varies with the circumstances of the case. In external necrosis it is little more, after extrusion is accomplished, than a process of granulation and ossification by which the chasm, large or small, is filled. After extrusion of central sequestra, so far as the mere chasm is concerned, the process is much the same. But much more is called for. The bone is greatly enlarged and condensed, and, at the same time, perforated by cloaca, while the medullary canal is in a peculiar condition. The cloaca remain open, it is believed, till repair of the chasm is effected, when, there being no occasion for further discharge of pus, they are supposed to close very much as the central chasm. The bone meanwhile diminishes in size; loses, to a greater or less extent, its ivory-like characters; and finally comes to present, as to its size and the proportion of its laminated and cancellous constituents, a more or less perfect imitation of its fellow of the opposite side. The activity, efficiency, and success of these modeling efforts, depend much, however, upon the age of the patient; the length of time the disease has been in existence, and the degree and kind of alteration the bone has undergone. The mode and degree of implication of the endosteum and medullary substance and canal, in this class of cases, are not very well understood.

After extrusion or removal of a general sequestrum, the model-

ing effort relates more particularly to the gradual diminution of the size, and the condensation of its substitute; the filling up of the interior cavity; the closure of the cloaca, and, in many cases, the restoration of the medullary canal. In this specimen of general necrosis of the femur, the sequestrum is in situ, the cloaca are still present and are very large; the substitute bone is condensed and strong; but we have demonstrated, by sawing out portions of it, as you see, that for a distance equal to about one-third the length of the bone, there is an entire absence of the medullary canal.

The *symptoms* of necrosis, so far as superficial appearances are concerned, are fairly exemplified in the two cases which we present to-day. In one of these cases we find several slight, cicatrix-like, teat-shaped elevations: these we call *papilla*. In or about each of these is the orifice of a small sinus. These sinuses have been discharging more or less of pus, in each of the cases, for a year or more. In both of the cases, furthermore, we have the history of a preceding osteitis.

Taking the first of these. This lad, Master B., from Guernsey county, is very intelligent for his years. A number of his family have died from ptisis, or other forms of scrofulous disease. He is cachectic, emaciated more or less, has a pulse of 90. For a length of time past he has had some difficulty about the right hip joint, which has left that articulation quite firmly ankylosed. You observe here, on the outer aspect of the right thigh, four inches below the trochanter major, five papilla. These mark the orifices of as many sinuses. Between these are abundant intercommunications, so that passing in several probes, I have no difficulty in bringing them in contact. Most of these sinuses are merely subcutaneous. One passes down deeply, however, and yet does not conduct me to a sequestrum. Now, accordingly, so far as this examination goes, I do not see the diagnosis clearly. This may be necrosis; it presents to superficial observation, as above intimated, the ordinary characters of that disease. Yet, taking the history, and all the circumstances of the case into consideration, it is most likely that we shall, from future examinations, arrive at the conclusion that it is a case of caries.

We now present you with another case. M——, aged 17, of Franklin county, has, you perceive, many of the indications of good health. He is in fair flesh; has a pulse of 75; eats and sleeps well, and is able to perform ordinary labor on a farm.



Six years ago he had a sudden and severe attack of inflammation in the deep structures about the lower end of the right thigh. After considerable suffering, pus was discharged, and the acute symptoms subsided. From this time there was one or more sinuses, evidently communicating with the bone. These, having shifted about from time to time, have left several cicatrices, as you see. At the present time two of them are open; one on the inner, and the other on the outer side of the thigh. Entering the probe in the inner one of them, after a good deal of search, I find a hard body; evidently loose; quite rough; of small size, and deeply situated in the popliteal space. This is undoubtedly a case of necrosis, the body which my probe touches being a sequestrum. I propose to dilate this sinus by introducing plugs of thoroughly dried slippery elm bark. This will occupy a couple of weeks, at the end of which time I hope to be able to remove this sequestrum, through the dilated sinus, by the use of forceps, and without a formidable operation, such as cutting down into the popliteal space in search of this sequestrum would be.

While both these cases, accordingly, on mere superficial examination, seem to present the characters of necrosis, one only we suppose to be of this character. In a few words, then, the more obvious and demonstrable symptoms of necrosis are the presence of papilla, cicatrices, sinuses, more or less chronic, with purulent discharge. Using the probe the sequestrum is detected. If by its use we find a bare smooth surface of any extent, we make out that it is either general or external necrosis. If it is jagged and rough in every part, while the living bone seems expanded or enlarged, and the cloaca are very constricted and hard; and if, in connection with this, we learn that the primary symptoms were excruciating and very tedious, we will do well to calculate upon the difficulties incident to central necrosis. In the use of the probe we aim not only to make a general diagnosis, but we resort to this method of ascertaining whether the bone is in a condition to be removed or not. If, getting our probe in contact with the sequestrum, we are able to move it, we have, of course, settled in our minds that the process of separation is complete. For this purpose it is frequently found best to use more than one probe. Using two we press alternately upon them, and thus succeed in demonstrating the mobility of the dead bone. If probes have not the requisite strength, as is frequently the fact, let directors, sounds, or some other strong metallic instrument be substituted.

*The question of operation.* I have time after time received applications to operate for necrosis, where no one supposed that the sequestrum was yet separated. In a trial for mal-practice I once saw a handful of bone exhibited by the surgeon who undertook to swear the case through, consisting of a score or two of fragments, claimed to have been scooped, bitten, or gouged off the ends of a broken tibia, as dead bone, in connection with the treatment of a compound fracture. I mention these things for the purpose of preparing your minds for a distinct understanding of a practical point. *The fact that bone is dead is not a sufficient reason for your gouging into it.* It should not only be dead, but *separated from the living bone*, before you interfere with it. The reason for this practice, universally sanctioned by competent authorities, is sufficiently obvious. When a portion of a bone dies it is in a state of physical continuity with the living bone. There is, of course, a boundary between the dead and living parts; but we have no means of recognizing it; hence should the operation be undertaken before separation has occurred, about as likely as otherwise, the surgeon would remove much that was *not* dead, and leave more or less that *was* dead. Hence, I repeat the precept, that before proceeding to operation, the bone should not only be dead, but *it should be separated from the living bone.*

The principal means of ascertaining whether separation has occurred, consists in the use of the probe. We are convinced that separation is complete, because, by the use of the probe we are enabled to shake or move it. Nothing else is entirely reliable; but the history of the case will aid us. If the attack of osteitis occurred very recently, and the amount of dead bone is considerable, these circumstances afford strong presumptive evidence that it is not detached. If, on the other hand, the case has been in a chronic condition for years, it is pretty certain that the dead bone is separated, whether we can move it or not. I do not propose to pursue the details of this subject further, or describe particularly the mode of operating. I only wish in conclusion to state that, performed only in proper cases, the operation, although it is occasionally sufficiently difficult, is yet a most promising one. Illustrating various features of the subject, I add the following cases:

CASE I. In July, 1852, Mr. B., a farmer of about 45 years, a man of large business, in the enjoyment of good general health, consulted me on account of tenderness about the trochanter major

of the right side, which had been present about a week and a half. I found the parts indurated, with deep-seated tenderness, and recommended rest, and the local use of iodine. Four weeks subsequently he called again. : Informed me that on account of a scarcity of help he had not been able to lie by, but had done ordinary labor in harvesting. An abscess had already pointed, and been opened and a small sequestrum was discharged spontaneously, followed at once by complete recovery.

In this case the otitis, death, separation, extrusion and closure of sinuses occupied less than six weeks.

Strongly contrasted with this we give—

CASE II. Mr. G., aged 19, in good general health, a farm laborer, presented himself for treatment in the winter of 1857-8. From childhood he had been in a great degree disabled on account of what was called white swelling, at the lower end of the femur. I found two sinuses, and using the probe detected dead bone in the situation of the external condyloid ridge of the femur. Making a liberal opening, I found and removed two small sequestra, which I here present. They were held firmly in situ by a slender bridge of substitute bone. In a couple of months he was perfectly well, and so continues at the present time.

CASE III. In June, 1854, Mr. B., an intelligent young man of Champaign county, aged 19, was sent to me for an operation by Dr. I. W. Goddard, of Westville. A few months previously, after exercising himself violently, he thoughtlessly exposed himself by standing for a length of time, in a strong wind, with his coat off. Following the exposure was severe inflammation about the left scapula. Abundant purulent discharge, and the formation of numerous sinuses followed. One of these opened at the lower end of the spine of the scapula; another at the root, and still another at the tip of the acromion process; another on the anterior aspect of the humerus just below the lower margin of the insertion of pectoralis major; another at the lower edge of this muscle where it quits the chest to constitute the anterior boundary of the axillary space, and yet another just below the middle of the clavicle.

Examining these sinuses most diligently I failed to find sequestra. By injecting fluids into them, however, I succeeded in demonstrating that all communicated with the one which opened at the root of the acromion. The case presenting the usual history of a case of necrosis, and there being no satisfactory explanation of the



symptoms, except on the supposition of its presence, I determined on an operation for the removal of sequestra.

Making a free incision over the length of the spine of the scapula, and about half the acromion, and dividing the fibres of the trapezius and deltoid muscles for a limited extent, the sinuses were found to have a common convergence to a considerable cavity which existed at quite a depth, just behind the middle of the clavicle. In this were found three small sequestra. These floating loosely in the cavity were removed without difficulty. This case made a complete recovery.

CASE IV. Mr. M., a very intelligent gentleman, aged 18, a resident of Madison county, became my patient about a year since. He is of a healthy family, and with the exception of his being pale, presented every appearance of being in the enjoyment of good health. When a small boy, after pain, fever, &c., sinuses formed at various points along pretty much the entire length of the right femur. When he presented himself there was a single very slight one, that could not be traced to any depth, in the upper part of the thigh. A number had closed, leaving cicatrices at various points along the limb. Communicating with the popliteal space just above the knee joint were two sinuses discharging profusely. The popliteal artery passed between them. At the bottom of these sinuses extensive surfaces of dead bone, partly rough, and partly smooth, were readily detected. The young man was disqualified for his place in society by his lameness, and the profuse discharges. After careful consideration of the anatomical relations of the sequestra, I determined to perform an operation by cutting down upon, and in the course of the external ham string, so as to drop into the lower and external of the two sinuses. This being effected, I separated the tissues along the external boundary of the popliteal space, using the edge or handle of the knife, and occasionally the finger, for that purpose. A liberal opening being thus made, as far from the knee joint as possible, the sequestra were finally found, firmly imbedded beneath a strong bridge of substitute bone. Shelving this off somewhat by the bone pliers, the dead bone was seized with a pair of very strong forceps, and after a protracted rocking effort was finally removed. This was followed by the removal of two smaller sequestra, which left the cavity smooth. The first of these sequestra you observe is of very large size,

equal to the outline of a large thumb including its metacarpal portion. This operation was followed by a perfect cure.

CASE V. Miss S., aged 18, of Champaign county, was operated on in Nov., 1859. Twelve years previously, in passing through weeds and grass, she was conscious of receiving a slight wound over the middle third of the fibula. Within a very few minutes she became very sick and faint. Extreme prostration followed, after which, reaction occurring, great swelling and inflammation occurred in the vicinity of the wound. A grave train of local and constitutional incidents followed, which rendered it quite certain that the wound was inflicted by a poisonous serpent. Surviving, there were left along the course of the fibula several sinuses. These persisted, changing more or less from time to time for 11 years. On cutting down I found a sequestrum of the shape and size of a very large darning needle. This was readily removed. The cure was prompt and perfect.

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## American and Foreign Intelligence.

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“From the St. Louis Medical Journal.”

[The following extract from Hugh Miller's “*Testimony of the Rocks*,” cannot fail to interest the reader. It is worthy of being committed to memory. L.]

*The Testimony of the Rocks.* By HUGH H. MILLER.

“The different races of mankind,” says Humbolt, employing, let me remark, the language of the distinguished German naturalist Müller, to give expression to the view which he himself adopts, “the different races of mankind are not different species of a genus, but forms of one sole species.” “The human species,” says Cuvier, “appears to be single.” “When we compare,” says Pritchard, “all the facts and observations which have been heretofore fully established as to the specific instincts and separate psychical endowments of all the distinct tribes of sentient beings in the universe, we are entitled to draw confidently the conclusion, that all human races are of one species and one family.” “God hath made of one blood,” said the Apostle Paul, in addressing himself to the *élite* of Athens, “all nations, for to dwell on the face of all the earth.” Such, on this special head, is the testimony of Reve-

lation, and such the conclusion of our highest scientific authorities. The question has, indeed, been raised in these latter times, whether each species of animals may not have been originally created, not by single pairs or in single centres, but by several pairs and in several centres, and, of course, the human species among the rest? And the *query*,—for in reality it amounts to nothing more,—has been favorably entertained on the other side of the Atlantic. On purely scientific grounds it is of course difficult to prove a negative in the case, just as it would be difficult to prove a negative were the question to be, whether the planet Venus was not composed of quartz rock, or the planet Mars of Old Red Sandstone? But the portion of the problem really solvable by science,—the identity of the human race under all its conditions, and in all its varieties, science *has* solved. It has determined that all the various tribes of man are but forms of a single species. And in the definition of species,—waving the American *doubt* until it shall at least become something more,—I am content to follow the higher authorities. “We unite,” says M. de Candolle, “under the designation of a *species*, all those individuals that mutually bear to each other so close a resemblance as to allow of our supposing that they may have proceeded originally from a single being or a single pair.”—“A *species*,” says Buffon, “is a constant succession of individuals similar to and capable of reproducing each other.” “A *species*,” says Cuvier, “is a succession of individuals which reproduces and perpetuates itself.”

Now all history and all tradition, so far as they throw light on the question at all, agree in showing that the centre in which the human species originated must have been somewhere in the temperate regions of the East, not far distant from the Caucasian group of mountains. All the old seats of civilization—that of Nineveh, Babylon, Palestine, Egypt, and Greece—are spread out around this centre. And it is certainly a circumstance worthy of notice, and surely not without bearing on the *physical* condition of primeval humanity, that in this centre we find a variety of the species which naturalists of the highest standing regard as fundamentally typical of the highest races of the globe. “The natives of the Caucasus,” says Cuvier, “are even now considered as the handsomest on earth.” And wherever man has, if I may so speak, *fallen* least,—wherever he has retained, at least intellectually, the Divine image,—this Caucasian type of feature and figure, with, of course, certain national modifications, he also retains. It was developed in a remarkable degree among the old Greeks, as may be seen from the busts of some of their handsomer men; and still more remarkably in their *beau ideal* of beauty, as exemplified in the statutes of their gods. We see it also, though dashed with a shade of severity, in the strong forms and stern features of Monarchs that reigned of old in Nineveh and Babylon, as brought to light in their impressive effigies by the excavations of Rawlinson and Layard. And further, though somewhat modified by the African dash, we detect it in the colossal statutes of Egypt. Nor, as



shown by Egyptian paintings still fresh in color and outline, was it less traceable in the ancient Jewish countenance and figure. It is still palpable, too, amid all the minor peculiarities of national physiognomy, in the various peoples of Europe. We may see it in our own country, though, as Sir Walter Scott truly tells us,—

“The rugged form may mark the mountain band,  
And harsher features and a mien more grave.”

It walks, however, the boards of our Parliament House here in a very respectable type of Caucasian man; and all agree that nowhere else in modern Europe is it to be found more true to its original contour than among the high-bred aristocracy of England, especially among the female members of the class. Looking, then, at the entire evidence,—at the admitted fact that the Circassians of the present day are an eminently handsome people,—that the old Greeks, Ninevites, Egyptians, Jews, Romans, and with these all the modern nations of Europe, are but the varieties of the central race that have retained in greatest perfection the original traits: I do not see how we are to avoid the conclusion that this Caucasian type was the type of Adamic man. Adam, the father of mankind, was no squalid savage of doubtful humanity, but a noble specimen of man; and Eve a soft Circassian beauty, but exquisitely lovely beyond the lot of fallen humanity.

“The loveliest pair  
That ever yet in love’s embraces met:  
Adam, the goodliest man of men since born  
His sons; the fairest of her daughters Eve.”

I know not whether I should add what follows. It has been said that Luke, the “beloved physician,” was also a painter. It has been said that traditionary, time-honored form, which we at once recognize in the pictures of the old masters as that of the Saviour of mankind, he in reality bore when he walked this earth in the flesh. I know not what degree of probability attaches to the belief. I know not whether the traditionary form be in reality the true one. This, however, I know, that *if* such was the form which the adorable Redeemer assumed when he took to himself a real body and a reasonable soul, the second Adam, like the first, exemplified, when upon earth, the perfect type of Caucasian man.

Let me next remark, that the further we remove from the original centre of the race, the more degraded and sunk do we find the several varieties of humanity. We must set wholly aside, in our survey, the disturbing element of modern emigration. Caucasian man has been pressing outwards. In the backwoods of America, in Southern Africa, in Australia, and in the Polynesian islands, the old Adamic type has been asserting its superiority, and annihilating before it the degraded races. But taking into account merely the aboriginal varieties, it seems to be a general rule, that the further we remove in any direction from the Adamic centre, the more animalized and sunk do we find the various tribes or races.

Contrary to the conceptions of the assertors of the development hypothesis, we ascertain, as we proceed outwards, that the course is not one of progression from the low to the high, but of descent from the high to the low. Passing northwards, we meet, where the lichen-covered land projects into the frozen ocean, with the diminutive Laps, squat, ungraceful, with their flat features surmounted by pyramidal skulls of small capacity, and, as a race, unfitted for the arts either of peace or war. We meet also with the timid Namollas, with noses so flat as to be scarce visible in the women and children of the race; and with the swarthy Kamtschatkans, with their broad faces, protuberant bellies, and thin, ill-formed legs. Passing southwards, we come to the negro tribes, with their sooty skins, broad noses, thick lips, projecting jawbones, and partially-webbed fingers. And then we find ourselves among the squalid Hottentots, repulsively ugly, and begrimed with filth; or the still more miserable Bushmen. Passing eastwards, after taking leave of the Persian and Indian branches of the Caucasian race, we meet with the squat Mongolian, with his high cheek bones set on a broad face, and his compressed, unintellectual, pig-like eyes; or encounter, in the Indian Archipelago or the Australian interior, the pitably low Alforian races, with their narrow, retreating foreheads, slim, feeble limbs, and baboon-like faces. Or, finally, passing westward, we find the large-jawed, copper-colored Indians of the New World, vigorous in some of the northern tribes as animals, though feeble as men, but gradually sinking in southern America, as among the wild Caribs or spotted Araucans; till at the extremity of the continent we find, naked and shivering among their snows, the hideous, small-eyed, small-limbed, flat-headed Fuegians, perhaps the most wretched of human creatures. And all these varieties of the species, in which we find humanity "fallen," according to the poet, "into disgrace," are varieties that have lapsed from the original Caucasian type. They are all the descendants of man as God created him; but they do not exemplify man as God created him. They do not represent, save in hideous caricature, the glorious creature moulded of old by the hand of the Divine Worker. They are fallen,—degraded; many of them, as races, hopelessly lost. For all experience serves to show, that when a tribe of men falls beneath a certain level, it can not come into competition with civilized man, pressing outwards from his old centers to possess the earth, without becoming extinct before him. Sunk beneath a certain level, as in the forests of America, in Van Dieman's Land, in New South Wales, and among the Bushmen of the Cape, the experience of more than a hundred years demonstrates that its destiny is extinction,—not restoration. Individuals may be recovered by the labors of some zealous missionary; but it is the fate of the race, after a few generations, to disappear. It has fallen too hopelessly low to be restored. There remain curious traces in the New World of these perished tribes. The Bible, translated into an old Indian language, from which the devoted David Brainerd taught so successfully a nation of Red

Men, still exists; but it speaks in a dead tongue, which no one can now understand; for the nation to whom he preached has become extinct. And Humboldt tells us, in referring to a perished tribe of South America, that there lived in 1806, when he visited their country, an old parrot in Maypures, which could not be understood, because, as the natives informed him, it spoke the language of the Atures. Tribes of the aborigines of Australia have wholly disappeared during the present generation; and I remember seeing it stated in a newspaper paragraph, which appeared a few years ago, that the last male survivor of the natives of Tasmania was at that time in the latter stages of consumption.

But if man, in at least the more degraded varieties of the race, be so palpably *not* what the Creator originally made him, by whom, then, was he made the poor lost creature which in these races we find him to be? He was made what he is, I reply, by man himself; and this, in many instances, by a process which we may see every day taking place among ourselves in individuals and families, though happily, not in races. Man's nature again,—to employ the condensed statement of the poet,—has been bound fast in *fate*, but *his will has been left free*. He is free either to resign himself to the indolence and self-indulgence so natural to the species; or, “spurning delights, to live laborious days;” free either to sink into ignorant sloth, dependent uselessness, and self-induced imbecility, bodily and mental, or to assert by honest labor a noble independence,—to seek after knowledge as for hidden treasures, and, in the search, to sharpen his faculties and invigorate his mind. And while we see around us some men addressing themselves with stout, brave hearts to what Carlyle terms, with homely vigor, their “heavy job of work,” and, by denying themselves many an insidious indulgence, doing it effectually and well, and rearing up well taught families in usefulness and comfort, to be the stay of the future, we see other men yielding to the ignoble solicitations of appetite or of indolence, and becoming worse than useless themselves, and the parents of ignorant, immoral, and worse than useless families. The wandering vagrants of Great Britain at the present time have been estimated at from fifteen to twenty thousand souls; the hereditary paupers of England,—a vastly more numerous class,—have become, in a considerable degree, a sect distinct from the general community; and in all our large towns there are certain per centages of the population,—unhappily ever increasing per centages,—that, darkened in mind and embruted in sentiment, are widely recognized as emphatically the dangerous classes of the community. And let us remember that we are witnessing in these instances no new thing in the history of the species: every period since that of the vagabond Cain has had its waifs and stragglers, who fell behind in the general march. In circumstances such as obtained in the earlier ages of the human family, all the existing nomades and paupers of our country would have passed into distinct races of men. For in the course of a few generations their forms and complexions would begin to tell of the self-induced de-



gradation that had taken place in their minds; and in a few ages more they would have become permanent varieties of the species. There are cases in which not more than from two to three centuries have been found sufficient thoroughly to alter the original physiognomy of a race. "On the plantation of Ulster in 1611, and afterwards, on the success of the British against the rebels in 1641 and 1689," says a shrewd writer of the present day, himself an Irishman, "great multitudes of the native Irish were driven from Armagh and the south of Down, into the mountainous tract extending from the Barony of Fleurs eastward to the sea; on the other side of the kingdom the same race were exposed to the worst effects of hunger and ignorance, the two great brutalizers of the human race. The descendants of these exiles are now distinguished physically by great degradation. They are remarkable for open, projecting mouths, with prominent teeth and exposed gums; and their advancing cheek bones and depressed noses bear barbarism on their very front. In Sligo and northern Mayo, the consequences of the two centuries of degradation and hardship exhibit themselves in the whole physical condition of the people, affecting not only the features, but the frame. Five feet two inches on an average,—pot-bellied, bow-legged, abortively featured, their clothing a wisp of rags,—these spectres of a people that were once well-grown, able-bodied, and comely, stalk abroad into the daylight of civilization, the annual apparition of Irish ugliness and Irish want."

Such is man as man himself has made him,—not man as he came from the hand of the Creator. In many instances the degradation has been voluntary; in others, it has been forced upon families and races by the iron hand of oppression; in almost all,—whether self-chosen by the parents or imposed upon them,—the children and the children's children have, as a matter of inevitable necessity, been born to it. For, whatever we may think of the Scriptural doctrine on this special head, it is a fact broad and palpable in the economy of nature, that parents *do* occupy a federal position: and that the lapsed progenitors, when cut off from civilization and all external interference of a missionary character, become the founders of a lapsed race. The iniquities of the parents are visited upon the children. And in all such instances it is *man* left to the freedom of his own will that is the deteriorator of man. The doctrine of the Fall, in its purely theologic aspect, is a doctrine which must be apprehended by faith; but it is at least something to find that the analogies of science, instead of running counter to it, run in exactly the same line. It is one of the inevitable consequences of that nature of man which the Creator "bound fast in fate," while he left free his will, that the free will of the parent should become the destiny of the child.

*Lectures on Experimental Pathology and Operative Physiology* delivered at the College of France, during the Winter Session 1859-60, by M. CLAUDE BERNARD, Member of the French Institute; Professor of General Physiology at the Faculty of Sciences.

LECTURE XXIII.—EXPERIMENTAL PATHOLOGY—ON THE ANALOGY BETWEEN MORBID CAUSES AND POISONS.

GENTLEMEN—From the earliest period to which our knowledge extends, it has been a favorite object with medical philosophers to connect, as far as possible, the symptoms exhibited by patients during life, with the morbid alterations discovered in the various organs after death. In many instances these laudable efforts have been fully crowned with success; and the light thrown upon this branch of the medical sciences, since a commencement of the present century, has, in no slight degree contributed to the progress of the healing art. But, although in the majority of cases, the results of post-mortem examinations enable us to ascertain the direct and immediate causes of death, our expectations are too often deceived in this respect; the most attentive survey leads sometimes, as you are well aware, to no satisfactory conclusion whatever; all the organs appear as sound as in the healthy state, and it becomes altogether impossible to account for the cessation of life. On the other hand, how frequently are extensive lesions discovered within the body after death, the existence of which had been revealed by no corresponding symptoms! All physicians whose attention has been devoted to the diseases of old age, have met with numerous instances of this kind. I remember myself having, more than once, witnessed similar cases, at the time when I was attached as an *interne* to the Salpêtrière (a). On one occasion I discovered a large tumour in the immediate vicinity of the pons varolii, the presence of which had not been attended with symptoms of paralysis, notwithstanding the pressure exerted on so important a portion of the brain.

Morbid anatomy must not, therefore be considered as a key to all the phenomena of disease: viewed by itself, it is utterly incapable of pointing out the hidden sources from which they spring; and mere anatomical investigations, however minute, are altogether insufficient in this respect. In making experiments upon the abdominal nerves, I have frequently seen animals die before any symptoms of inflammation had made their appearance; and Chossat's interesting researches on the effects of starvation equally afford instances of sudden death under similar circumstances. Thus, in animals entirely deprived of food, a given period usually elapses before life is altogether extinct; but when the process is already

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(a) An Asylum for aged women, which contains upwards of five thousand inmates.

far advanced, the slightest shock is sufficient to destroy life at once. A pigeon, which has been kept fasting for a considerable length of time, falls down, and instantaneously dies, when its claws are nipped; while, if not interfered with, the animal's life is usually prolonged for several days. It would, of course, be quite unnecessary to state, that in making the autopsy, no alterations besides those which ordinarily result from inanition are met with. In what manner, therefore, is death to be accounted for in such cases? Chossat attributes it to syncope; an opinion which our own experiments tend to corroborate. In fact, the heart's motion (as we have elsewhere stated) is momentarily arrested when a sensitive nerve is painfully excited; it would, therefore, be quite possible that in animals reduced to a state of great debility, a slight sensation of pain should immediately produce death. There also exist in such cases, other conditions which the mere anatomist is unable to appreciate. The temperature of the medium in which animals are kept during the process of starvation, has a considerable influence upon the duration of life: for cold accelerates, and warmth opposes the destructive process; and, in experiments in which circulation has been arrested in some of the larger vessels we also find this to be the case. When the vena porta, for instance, has been tied, the animal is soon deprived of its natural heat, and rapidly dies, if the temperature of the body is not maintained in a proper state by artificial means; but when this precaution has been taken, the results of the operation seldom prove fatal.

It would not be difficult to accumulate a still larger amount of evidence upon this point, but you have no doubt been fully convinced, by the facts to which we have just drawn your attention, that nothing beyond the mere mechanical causes of death is explained by morbid anatomy, and that other and more comprehensive modes of investigation are indispensable to those who wish to acquire a deeper insight into the secrets of living nature. To fill up this void as far as possible, is the chief purpose of our present researches, but in pursuing this object we must never lose sight of the example left us by those illustrious observers to whom the biological sciences are indebted for all the progress they have accomplished in moderations. The concatenation of natural phenomena, their mode of precession, and the laws according to which they are produced, must alone become the subject of our studies; as to the intimate nature of things it lies entirely beyond the reach of human knowledge. It would not, for instance be sufficient to state that certain poisons act upon the nerves, others upon the muscles or the blood; but when the peculiar mode of action of such bodies upon our tissues and the mechanism through which life is extinguished have been thoroughly ascertained in each case, we can go no further; to explain the mysterious properties which enable a given poison to disorganize a given tissue, is not within the power of science. You remember, no doubt, the effects produced by oxyde of carbon upon the blood-globules, you are aware that a chemical combination takes place between these two bodies which opposes



the absorption of oxygen, and brings on a peculiar kind of asphyxia; the mechanical process of respiration still continues but is no longer attended with the revivication of the blood in the lungs. Here, then, we have a satisfactory explanation of the deleterious influence exerted by this substance; but if we were asked *why* the combination takes place, we should of course be unable to answer the question. The affinity of oxyde of carbon for the blood-cells is evidently superior to that of oxygen, but the primitive reason of this difference lies beyond the limits of our scientific knowledge.

The physiologist must therefore be contented with tracing back the effects produced by disease to some primitive cause, the discovery of which puts an end to his inquiries; and the influence exerted by toxic agents upon the organs of the living body will in this respect be found to exhibit a striking analogy with that of morbid causes. In what manner is the agency of poisons to be conceived? Ought their effects to be viewed in the light of chemical combinations, which supercede the physiological changes that support life? Such is in fact the explanation we have adopted, as regards the action exerted by oxyde of carbon upon the blood-globules; but would it be proper to extend these views to all the different poisons with which we are at present acquainted? Are we to suppose that woorara is chemically combined with the substance itself of the motor nerves, so as to impede the progress of the nervous fluid? A similar hypothesis would evidently not be in accordance with facts: we find that when life has been protracted by artificial means, the deleterious agent is gradually expelled from the economy: now, if a permanent impression had been produced upon the nerves, we should not find this to be the case.

It therefore appears that toxic agents exert different modes of action upon the fundamental conditions of life: in some instances they seem to be chemically combined with the histological elements of the disorganized tissues: such, according to Liebig is the case with respect to metallic salts. Other poisons on the contrary, circulate freely with the blood, and destroy for the time being its vital properties: now, the blood, as we have already stated is the common medium in which all the tissues exist: if therefore a deep change occurs in its physiological properties, both muscles, glands, nerves and other organs, are liable to experience a total derangement in their usual functions. The well known experiments of Bichat upon the injection of venous blood into the arteries, afford a striking example of this; and it can scarcely be questioned that such is the mode of action exerted by woorara, strychnia, and all the other substances which are speedily eliminated from the body, when death has not been almost immediately the result of their presence.

It would therefore appear, that poisons might, in this respect, be divided into two principal classes: some of them give rise to stable and definite chemical compounds, are retained within the economy, and may be discovered by the process of analysis after death: others are speedily expelled from the body, and leave no visible

marks of their passage. In the first case permanent and incurable effects are produced: in the second a transitory action is alone exerted, and when the patient recovers, the noxious principle has entirely disappeared. In short, gentlemen, we find in all respects, a perfect resemblance between the effects of poison, and those of ordinary diseases: and in our next lecture we shall endeavor to complete the parallel between them.

LECTURE XXIV.—OPERATIVE PHYSIOLOGY—ON THE PANCREATIC SECRETION.

GENTLEMEN—In the preceding lectures we have successively examined the principal methods employed for the purpose of obtaining the produce of certain glands which play a prominent part in the digestive functions. We have shown you how to collect saliva, the gastric juice, and the pharyngeal secretion, in a state of perfect purity. We shall now descend into the lower portion of the alimentary canal, in order to pursue our investigations into this branch of physiology.

Immediately below the pylorus, several important liquids are poured into the duodenum by various glands, some of which are placed on the outer side of the intestine, while others lie imbedded in its walls. We allude to bile, pancreatic juice, and the liquid secreted by Brunner's glands. We shall direct your attention to-day to the pancreatic secretion; and we evidently could not have chosen a more interesting subject to conclude these lectures for the present session.

The various methods of collecting the intestinal fluids, although resting upon some general principles, require certain modifications in the case of each gland. There exists as you are well aware, a vast difference between these various organs: the pancreas, for instance, is far from resembling the salivary apparatus, to which it has frequently been assimilated. As far as structure is concerned the comparison is just; but with respect to their physiological properties it is absolutely erroneous; and although the contrast is sensible enough in the healthy state, yet the effects of disease bring it into a much stronger light. Local disorders, in fact, almost exclusively enjoy the property of disturbing the salivary secretion, which remains unimpaired during the course of other affections. It is, therefore, comparatively easy to collect this fluid in large quantities without modifying its normal characteristics; for the slight inflammation which sometimes results from the experiment, is in this respect altogether harmless. Far different is the sensibility exhibited by the pancreatic gland: the general perturbations of the economy exert a powerful influence upon its functions, and the least degree of inflammation immediately perverts the properties of the fluid which it produces; when, therefore, peritonitis arises in consequence of the operation, the experiment cannot be pursued with any hope of success, no reliance whatever can be placed upon the results obtained, a healthy secretion being no longer placed at

our disposal; and if the utmost care is not taken to avoid this unfortunate complication, which too often attends operations performed upon the abdominal viscera, the properties of the pancreatic secretion cannot be rationally ascertained.

The absolute necessity of establishing definite rules for the performance of this delicate operation is evident, for we cannot expect the results obtained by different observers to agree, unless the conditions in which the experiment takes place are identically the same in every case. Let us, therefore, consider the anatomical disposition of the pancreatic ducts, in man as well as in the lower animals; after taking this preliminary step we shall endeavor to lay down, as clearly as possible, the requisite directions.

The pancreas in the human species is provided with two excretory ducts, the first of which falls into the ductus choledochus; while the second opens separately into the duodenum. Here is the stomach of a criminal, preserved in alcohol; the organ having, therefore, belonged to a healthy subject, must be supposed to exhibit the normal state. Two little silver probes being introduced from without into the pancreatic ducts, you will see them appear on the inner surface of the intestine and their direction will be easily ascertained. The extremity of the probe passes into the duodenum, as you perceive, just below the pylorus. One of the ducts is provided with a distinct aperture, while the other falls into the biliary canal. In this preparation both ducts happen to be of an equal size, but in the majority of cases that which is anastomosed with the ductus choledochus is a little larger than the other. And, lastly, a direct anastomosis exists between the two ducts; it is fully exhibited (as you see) in this preparation. This disposition is worthy of notice, since, after tying one of the two excretory canals the pancreatic secretion flows through the other into the digestive tube.

A similar disposition exists in the dog; the pancreas is also provided in this animal with two ducts, one of which opens into the duodenum just above the orifice of the ductus choledochus, while the other unites with the biliary canal, a direct communication existing between the two ducts, as in the human species. A small tubercle on the internal surface of the intestine points out the seat of the principal orifice, common to both the pancreatic duct and the biliary canal; immediately above this point a second tubercle corresponds to the opening of the accessory, or independent, pancreatic duct. We here exhibit the stomach of a dog, in which the above-mentioned dispositions are conspicuous, and it will be easy to show you the anastomosis between the two ducts by a direct experiment. When a colored liquid is injected into one of these apertures, it flows immediately from the other, affording a manifest proof of the communication between them.

(M. Bernard here introduces a fine syringe into the principle orifice, and injects water with force into the corresponding duct; a jet immediately escapes from the neighboring aperture.)



The existence of this anatomical peculiarity in dogs has been described long ago by R. De Graaf, and was even known to exist in man. Meckel states that in the foetus a double canal corresponds to a double pancreas; in the adult, this bifidity disappears, according to Meckel, and only one duct is found, the double gland having coalesced into a single mass. Although the celebrated anatomist was mistaken in this particular, I readily believe in the bifidity of the pancreas during the foetal state. I have found this to be the case in the canine species; and the existence of a double apparatus in the foetal state, which corresponds to a single organ in adult animals, is of very frequent occurrence. In the gallinaceæ, for instance, the left ovary is atrophied when the bird arrives at its full development.

The dog is of course the animal usually employed in making experiments on the pancreatic secretion; and the accessory duct is generally chosen for this purpose. The operation is performed in the following manner:

An incision is made upon the adominal parietes in the median line, in the vicinity of the pylorus; the muscles being drawn aside by an assistant, the operator seizes the duodenum with a forceps, separates it from the adjoining parts, and draws it out through the wound. The pancreas, the intimate connections of which with this portion of the digestive tube are well known, is in this manner extracted from the abdominal cavity; the vessels are then drawn aside, the utmost care being taken not to injure them; and a small portion of the accessory duct is thereby laid bare. On this point the incision may be performed, without irritating the delicate gland, which the slightest touch would inflame. A thread being passed under the duct, it is opened, and a silver tube is fixed by means of a ligature in its cavity; it is often found necessary to fasten the tube in the duct in two separate places, in order to prevent it from escaping. The duodenum and pancreas are then carefully replaced within the abdominal cavity, the extremity of the canula still protruding from the wound. The tube employed for this purpose must be four or five inches long, and provided with a stylet, to clear it from obstructions.

The pancreatic secretion has not exclusively been studied in the canine tribe: its properties have been examined in several other animals.

In the cat the disposition of these ducts is so irregular as to baffle all description: in most cases, there exist several of them. In the rabbit this distribution is highly favorable to the experiment; they spread over the mesentery, in the shape of a fan, before penetrating into the duodenum; nothing, therefore, can be easier than to open them and insert a tube into the cavity. The anatomical preparation which we place here under your eyes, exhibits the above-mentioned arrangement.

In the ox the pancreas is equally provided with a large number of excretory ducts; the greater part of these are anastomosed with the biliary apparatus; some of them fall into the ductus choledo-

chus: others arrive at the gall-bladder itself; and the biliary ducts are not unfrequently connected with little pancreatic glands, which pour into their cavity the fluid which they produce. There always exists, however, one independent duct at least, which opens separately into the duodenum: on this point is the operation performed; but even after tying most of the accessory ducts, it is impossible to collect the whole of the liquid secreted by the pancreas, a large proportion of which flows directly into the gall-bladder. We place here under your eyes the duodenum of an ox, with the neighboring portions of the stomach; and in this preparation you see the ducts which arise from the pancreas, freely anastomosed with the various ramifications of the biliary canal.

The method of obtaining pancreatic juice which has just been described, is altogether different from the one adopted by De Graaf: in his researches on this subject, he used to make a wide incision on the abdominal walls, which allowed the whole intestinal mass to escape; the pancreas being then separated from the neighboring parts a tube was introduced into its principal duct; but the subsequent results of this somewhat brutal separation appear to have vitiated the secretion of the gland, for De Graaf's description of the properties of this fluid is far from coinciding with the notions actually entertained on this point.

Other observers had opened the duodenum, in order to obtain a supply of pancreatic juice, but Tiedemann and Gmelin had recourse to the operation we have described, and were thus enabled to obtain large quantities of this fluid without wounding the intestine: the advantage of avoiding this useless injury is too evident to be explained.

The operation must in every case be performed while the animal is in full digestion, for in the healthy state the secretion only takes place at that moment, and the nerves of the pancreas being imperfectly known, we are unable to bring galvanism to bear upon them, for the purpose of stimulating the activity of the gland. On the other hand it is of the highest importance to obtain a certain quantity of the fluid at once; for if several hours are allowed to elapse after the operation, before any is collected, an acute inflammation may have taken place, and a vitiated secretion is obtained instead of the normal products of the gland. In most cases, however, if the operation has been properly performed, these accidents do not occur, and the animal furnishes a healthy secretion in abundance, for the space of several days.

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*Observations on the Treatment of Puerperal Eclampsia:* BY DR. PIRRIE, Belfast.

There is more or less cerebral congestion in these cases, which may be followed, in rare cases, by effusion; but this is not the *primary* disease. It is a direct consequence of the spasmodic action of muscles of respiration interrupting the oxygenation and

due circulation of the blood. He believes true puerperal eclampsia is caused by albuminuria. A condition very analogous, if not identical with anæmia, is produced by the kidneys permitting the exudation of serum, while they retain excrementitious matters, which should have been eliminated, causing the contaminated blood to circulate with difficulty, giving rise to œdema.

Simpson, who was one of the first to demonstrate the intimate connection between albuminuria and puerperal eclampsia, though hesitating to place them in the relation of cause and effect, yet describes them as, perhaps, simultaneous or successive effects of one cause, viz: a pathological state of the blood, to the occurrence of which pregnancy peculiarly disposes the patient.

Dr. P. is more inclined to refer it to congestion of the kidneys, caused by a direct pressure of the gravid uterus. In support of this view, we have the vast preponderance of such attacks in primiparæ, and the rapidity with which the albumen disappears from the urine after delivery. Sir Charles Locock, in the article "Convulsions," in the *Cyclopædia of Practical Medicine*, in assigning mental emotions as excitants of these paroxysms, says: "It has been long remarked, that unmarried women are more liable to be sufferers from convulsions, from the shame and distress under which their children are usually born." When we bear in mind the efforts made by such women to conceal their condition, we may readily conclude that direct physical pressure has more influence in the production of the convulsions in these cases than mental emotions.

The treatment is to relieve the pressure, not on the brain, but on the renal vessels; eliminate noxious matters from the blood, and stimulate the kidneys to a healthy secretion. These rules are applicable, whether the convulsions appear during pregnancy or labor, or after delivery. Thus, we may act freely on the stomach and bowels, reducing the contents of the abdomen, and eliminating noxious matters from the circulation; we may restore healthy urinary secretion by the administration of benzoic and tartaric, or other vegetable acids, as recommended by Braun and Fresichs. Finally, when danger is imminent, evacuate the uterus.

Chloroform and ether are useful adjuvants. In this connection we must remember the highly important fact discovered by Kussmaul and Tenner, in their experiments, that in animals subjected to etherization, convulsions could not be induced.

While opposed to venesection as a prophylactic and curative agent, as he firmly believes its tendency is to increase the severity of the attack, to debilitate the patient and delay the recovery, yet he thinks local bleeding, leeches to the temples, or cups to the nape of the neck, may be beneficial, by moderating the secondary congestion. In lieu of the warm bath, which is very difficult in the majority of cases to employ, he prefers sponging the surface with warm vinegar and water. To recapitulate:

Convulsions are *not* caused by plethora of the brain, but by anæmia or defective nutrition.



Depletion aggravates the tendency to convulsions.

All cases of true puerperal eclampsia are associated with and caused by albuminuria, which is most probably caused by renal congestion, the effect of direct pressure.

The indications for the rational treatment are :

To relieve pressure, the cause of renal congestion. Eliminate noxious matters from the circulation, and to stimulate the kidneys to healthy secretion.—*Doub. Quar. Jour.*, May, 1860.

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*On Hemorrhage from the Bowel, in Children, as a sign of Polypus in the Rectum.* By THOMAS BRYANT, Esq., F. R. C. S., Assistant surgeon to Guy's Hospital.

[Polypus of the rectum is usually considered a rare affection ; but, within the last two years, at least twenty examples have fallen under the author's notice. The connection between hemorrhage from the bowel in children, and polypus of the rectum, is remarkably constant. Mr. Bryant says:]

In the majority of the cases which I have observed, the disease has existed for many months; they have all occurred in children under ten years, and, in most, the disease has been regarded and treated for piles. In some cases the discharge of blood from the bowel is constant, and its buttocks smeared with a bloody mucus. In these instances the polypus will generally be found to be within, if not protruding from, the sphincter. In other examples, occasional discharges of blood will be observed, although not to any very great extent, and this discharge will generally accompany and follow the act of defecation. In others, again, the hemorrhage will take place independently of any such process. There will, generally, be some straining after stool, but I have never observed any prolapse of the rectum ; and although this disease is troublesome to the child, and of course debilitating by the repeated, if not constant hemorrhage, when once recognized it is easily treated and rapidly cured.

The recollection that such a disease is not so uncommon, and that it is always associated with hemorrhage from the bowel, should at once lead the surgeon to examine the part with his finger, when the growth will probably be easily detected. It is generally situated about one or two inches up the bowel, and will be found to vary from the size of a pea to that of a large nut. In some cases more than one will be present ; they are always very moveable, and easily slip away from the finger upon anything like pressure ; and at times some little difficulty is experienced in fixing them for removal. Such a practice is the only correct statement, being invariably followed by a successful result. It may be done by means of forceps or ligature ; and in many cases I have broken the polypus off its attachment by hooking my finger round its pedicle. No bad result has ever followed. The pedicle is always very slender, although it may be an inch or more in length.

The structure of the polypus is very simple, microscopically presenting the ordinary characters of the fibrocellular growths. After removal no subsequent treatment is required, and recovery may confidently be expected; the rectum, however, should be carefully examined, so that a second polypus be not overlooked.

I have thus briefly brought this small but not unimportant subject before the notice of the profession, feeling confident that the existence of polypus of the rectum is not so uncommon as is generally believed, and that such an affection is usually mistaken and treated for piles. In children, the presence of bleeding from the rectum should at once lead the practitioner to suspect the existence of polypus; and, when detected, its removal is the only correct treatment. I have never had an opportunity of seeing a child suffering from piles, and believe that cases so described are generally mistaken, and that, in reality, they are cases of the disease now under consideration.—*Lancet*, Nov. 26, 1859, p. 530.—*North Carolina Journal*.

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ON THE DEGLUTITION OF ALIMENTARY FLUIDS.—Prof. J. H. Corbett, M. D., in a paper read before the Physiological Subsection of the British Association for the advancement of Science, at its recent meeting in Oxford, endeavored to prove that there are two distinct forms of deglutition; that, while the alimentary bolus is propelled with rapidity over the epiglottis, fluids can flow in two streams, one at each side of the epiglottis and of the aryteno-epiglottic folds, without the danger incidental to its passage over the central aperture of the larynx. This occurs in the infant and the mammal during suction; it takes place in the sipping of fluids, swallowing of the saliva, and during drinking in a continuous draught. Ordinary drinking is accomplished by gentle muscular movements, which should not be confounded with the gulping of fluids. In gulping, the fluid is rapidly and forcibly propelled backwards, and this act somewhat resembles the deglutition of solids.

In experiments made by the author on the dead body, fluid poured upon the dorsum of the tongue passes backwards into the pharynx in two streams, through the grooved passages situated at each side of the epiglottis and aryteno-epiglottic folds.

In the living body, during the deglutition of fluids, the uvula falls forward upon the tongue, in front of the epiglottis; and both the uvula and epiglottis afford protection to the respiratory apparatus. The fluid is divided by the uvula into two currents, which descend at each side, under the half-arches of the palate; that such is the principal use of the uvula. The anatomical arrangements in the human body are perfectly adequate for the transmission of fluid in this safe manner. The anatomy of the porpoise, in which the larynx rises in the form of a blow-tube for several inches above the level of the tongue, affords a strong confirmation of

this view; which is further sustained by instances in which the epiglottis has been destroyed. The distinctness of the two forms of deglutition is also indicated by the fact that the mouth may be filled with food, and yet drink can be swallowed without displacement of the solid aliment.—*Brit. Med. Jour.*, July 21, 1860.

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*Periodicity as a Character of Disease.* By RICHARD HUGHES, M.R.C.S., L.R.C.P.ED., Surgeon to the Brighton Orthopædic Hospital.

There is one disease—ague—of the phenomena of which periodicity is an invariable characteristic. There are other affections—the neuralgia and nervous headaches—which very frequently assume a regular intermittent character. And occasionally, in the course of various diseases, a tendency to a periodical type is manifested.

Quinine and arsenic are specifics in ague. They are hardly less valuable in neuralgia and nervous headaches. And when, in works on medicine, we meet with the remark that sometimes the symptoms seem to come on periodically, it is generally coupled with the statement that in these cases quinine will be found of the utmost value.

What is the *rationale* of the facts?

The cause of the regular periodic recurrence of the paroxysms of intermittent fever is discussed by Dr. Watson, in the first volume of his *Lectures on Medicine*, p. 758. After passing in review the various theories that have been advanced to account for it, he leaves the subject as one altogether uncertain. Cullen's hypothesis as to the influence of diurnal habit he thinks the nearest approach to the truth; but admits that this will in no way account for the tertian and quartan types of ague. In this state of uncertainty, the peculiar poison—malaria—which causes intermittent fever has been generally regarded as the source of its periodical character. It is supposed to act in the way of a ferment in the blood; and the zymotic process set up by it is supposed to have its regular development and decline, the paroxysms being its effect on the nervous system when the process attains its acme. When other affections manifest a periodic type, it is supposed that their subjects have either had ague or been exposed to malarious influences. On the other hand, quinine and arsenic are considered to be antidotes to the malarious poison, and thus to counteract its periodic influence in all affections which tend to assume that type. But I think I shall be borne out by general experience when I assert that periodic phenomena are manifest in many a case of neuralgia or other disease, when the hypothesis of malarious influence is altogether shut out. This theory, therefore, in itself *a priori* most improvable, must be at once rejected.

If, then, the periodicity of ague does not depend upon the peculiar poison which occasions it, does it depend upon the peculiar por



tion of the organism which that poison affects? This is universally acknowledged to be the nervous system—the sympathetic.

Let me place one after another some of the principal phenomena of the cold stage of ague, with those produced by galvanization of the sympathetic in the neck.

In the cold stage of ague “the patient feels chilly; the blood deserts the superficial capillaries; he grows pale, his features shrink, his skin is rendered dry and rough, his respiration is quick and anxious; his pulse frequent sometimes, but feeble; all the secretions are usually diminished; may make water often, though generally he voids but little, and it is pale and aqueous; his bowels are confined, and his tongue is dry and white.”—*Watson, op. cit.*, p. 735.

Let Dr. Brown-Sequard now tell us the result of his galvanizing the sympathetic in the neck:—“The pupils are dilated; the eyelids wide open; the globes protruding. Blood deserts the superficial vessels; secretion is diminished or checked; temperature and all vital functions lowered.”

It is clear from the above that the essential phenomena (diminished afflux of blood to the surface, check of secretion, and lowering of temperature) of the cold stage of intermittent fever may be produced artificially by excitation of the sympathetic nerve, and are dependent upon the contraction of the blood-vessels thereby occasioned. The hot stage is no less explicable as the natural reaction of the vessels to even beyond their normal calibre, and finds its precise analogue in the phenomena which results from section of the sympathetic in the neck.

It would appear from the above that the sympathetic system is that part of the organism specially affected by the malarious poison, and that the phenomena of ague depend on a periodic excitation of it by the poison, followed by an equally immoderate reaction in the opposite direction, which latter at length settles down to the equilibrium of health. And upon the hypothesis the beneficial influence of quinine and arsenic in this disease receives its perfect *rationale*. For these are well known as (to use Dr. Handfield Jones' term) “toners of the vaso-motor nerves”—*i. e.*, of the sympathetic—and their tonic influence thus exerted will obviously render it capable of resisting the morbid irritation of the malarious poison; a view of which is confirmed by the well known fact that quinine is no less valuable as a preventive than as a curative agent against this malady.

But will the fact of the sympathetic system being the seat of the phenomena of ague help us to explain the periodic character of these phenomena? I think it will. Let us consider the actions of the heart and the uterus, two muscular organs supplied mainly or entirely by this nerve.

What is the cause of the rhythm of the heart? It cannot be the stimulus of the blood, or of anything else within the body: for a frog's heart will continue its regular systole and diastole for some time after its removal from the thorax. The only motive agency

then left to it is that of the sympathetic ganglia, which are imbedded in its substance. To these nervous centres we are therefore shut in our inquiry as to the heart's action; but the influence of these centres is neither continuous nor occasional, but rhythmic—*i. e.*, periodic.

The uterus resembles the heart in its also possessing numerous sympathetic ganglia imbedded in its muscular walls, and in entire independence of the cerebro-spinal system in its movements. Is there anything here periodic? We immediately think of the regular monthly recurrence of the phenomena of menstruation, and of the act of parturition, which (as first shown by Dr. Tyler Smith in the pages of *The Lancet*) is determined by the menstrual periods being normally due on the twenty-first day after the commencement of the last menstruation.\*

From the marked periodicity apparent in the action of these two organs, exclusively animated by sympathetic ganglia, we seem justified in the conclusion that a periodical evolution of nerve-force is characteristic of this division of the nervous system; and if this be the case, we cannot be surprised that it should give its peculiar character to phenomena resulting from the effect of a poison upon itself. Thus the periodic character of the paroxysms of ague is reduced under the mere general law of periodic character of phenomena, morbid or natural, over which the sympathetic system presides, dependent upon the endowment of this system itself.

It follows that periodic phenomena appearing in the course of any other diseases must be attributed to an involvement of the sympathetic system in their morbid irritation; and thus the beneficial effects of quinine and arsenic in all such cases fall under the general law of their toning influence upon that system. I may instance the most common affection which inclines to a periodic type—nervous headache. Dr. Symonds, in his admirable Gulstonian Lectures upon this subject, shows by many arguments that the vascular nerves—*i. e.*, sympathetic—of the brain and skull are the seat of pain in this affection, and, in common with general experience, regards quinine and arsenic as the sheet-anchor in its treatment.

I venture to admit that the following original conclusions are established by the preceding considerations:—1. That ague is an affection of the sympathetic system. 2. That its periodical character is dependent upon a periodicity impressed upon the sympathetic system, and manifested in all the phenomena, morbid and natural, over which it presides. 3. That the *modus operandi* of quinine and arsenic in ague and other periodical affections is the toning influence exerted by them on the sympathetic nerve. The doctrine also of the dependence of the heart's movements on its embedded ganglia, and of the menstrual periodicity as the determining cause

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\* This theory should be more widely carried out in obstetric practice. I have been delighted at the exactitude with which it has enabled me to predict even the day of delivery. The advantage of such a pre-knowledge, whether to patient or practitioner, is immense.

of parturition, receive no slight corroboration; and our instinctive recourse to quinine and arsenic, whenever periodic symptoms manifest themselves, receives alike its *raisonable* and its establishment.

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*On Iodine Injections in Ovarian Cysts.* By Prof. SCUDL.

The primary action of iodine injections on ovarian cysts is remarkably variable; and that not only according to the quantity and dilution of the tincture, the amount of the still remaining contents of the cysts, and the peculiarities of the individual, but also according to the condition of the cyst itself as regards its thickness, solidity, its connections with surrounding parts, its surface, and the abundance or scarcity of the supply of vessels—leading to the greater or less stimulation of the cyst, as well as its influence on the nervous system. The peculiarities of the walls of the cyst due to their permeability, and their capability of exosmose, and endosmose cannot be determined beforehand with any exactitude, not only in different patients, but even in the same patient, in a case of repetition of the injections—changes being determined in the texture of the sac which cannot be appreciated. A certain quantity of the tincture, which on the first occasion scarcely exerted any local or general influence whatever, may on a repetition of the injection give rise to the most violent and dangerous symptoms. This is the more extraordinary because the same disparity of effect is not observed in other affections in which the iodine injections are employed, *e. g.* ascites, abscess, thyroid, cysts, enlarged bursæ, etc.

The author has studied the primary effects of injections on fifteen occasions. Sometimes there is no pain or tenderness on pressure; or if the latter exists to some extent, it only lasts for a day or two, the iodine freely passing into the urine from the commencement. Sometimes severe pain is produced at the time of the injection, which persists with exacerbation, or it only first comes on some time after the operation. At the same time a great change in the general condition is noticed—restlessness, vomiting, sleeplessness, faintness, and rapidity of pulse being among the symptoms. In some cases the pulse remains unchanged, but great alteration has taken place in the countenance. In other instances the pulse is very small and feeble, as well as rapid; the extremities are cold, and consciousness is temporarily lost—alarming symptoms that may continue for several hours or a day, and then gradually cease. Not only is iodine found in the urine a few minutes after injection, but likewise in the saliva and in the vomited matters; this iodine reaction being exhibited for from four to twelve days, although the other symptoms have usually terminated earlier. In some cases the primary influence seems to be expended on the cyst and its vicinity, since great pain and tenderness arise, to be followed by shivering and heat, indicating either suppurative inflammation of the cyst, or the development of a dangerous peritonitis. There can be no doubt that the symptoms of poisoning



above mentioned arise chiefly from the rapid passage of the iodine into the blood; but although the nervous system may be principally affected, through this, its becoming so, so rapidly, in some cases, also indicates a primary action of the iodine upon it.

The *indication for the iodine injection* is the existence of a unilocular globular cyst which has not reached too great a size, having but thin walls, presenting an equal resistance at all points, and containing thin, serous fluid. In order the better to judge of these points, a preliminary puncture of the cyst should always be made, discharging the contents as far as possible. The manner in which this preliminary puncture is borne—*i. e.* with respect to the amount of irritation produced—will give some idea as to the quantity and concentration of the fluid which is hereafter injected. This injection should be proceeded with as soon as the fluid has collected again in sufficient quantity for a puncture to be made without risk of injury to the intestines, it being by no means desirable to wait until the tumor has reacquired its former volume. When after the preliminary puncture a large mass is still left behind, we may conclude either that the walls of the cyst are thick and vascular, that there are multiple cysts, that there are villous or other pediculated growths from the inner wall, or that the cyst is interwoven with fibrous or other parenchymatous structure. These circumstances diminish greatly the chance of success, or they prohibit the performance of the injection. In some rare cases, indeed, in which two or three cysts have existed, the injection of the largest of these has sufficed for a cure; the iodine, through the operation of the endosmose or exosmose, exerting its influence upon the smaller cysts; or the smaller cysts having become perforated through the larger, the remedy thus gains access to all. But upon such exceptional instances the surgeon cannot count. In very large cysts, by which great traction of the viscera, dyspnoea, etc., have been induced, and in cysts exhibiting irregularities of surface and indurations, which may arise from the aggregation of numerous cysts, or from the presence of fibrous, carcinomatous, or other degenerated masses, the idea of the injection should be entirely abandoned. It would lead to a more rapid growth, or give rise to suppurative inflammation. When the puncture gives issue to the thick, gelatinous fluid, this indicates a condition of the walls of the cysts not easily influenced by iodine. It is very rare for such fluid to become thinner and more serous on subsequent punctures.

The fluid to be injected should amount to from two to six ounces, consisting of tincture of iodine diluted by from one to eight parts of water, adding a scruple of iodine of potassium. As the extent of its stimulating power cannot be always foreseen, it is best, especially on the first occasion, and when the cysts has been nearly emptied, not to employ it too concentrated. The desirableness of preventing access of air during the injection is obvious; and the canula and tube affixed to the syringe are best made of platinum, this being the metal upon which iodine exerts least action.

The fluid is not to be allowed to run out again; but should very severe pains follow immediately after the injection some water should be thrown in in order to effect dilution. The stimulation of the cyst by the iodine usually leads to an inflammation which is limited to the walls of the cyst. The serous exudation is increased, and the tumor in a few days reacquires the size it had prior to the operation. After then the size gradually diminishes, and it is a very favorable sign, when with such diminution in size an increase of resistance or an actual induration is perceived. This latter condition is due to coagulation of albuminous matters induced by the iodine, and these are often so thick that a repetition of the puncture at this period gives issue to no fluid, or only a very small quantity. After weeks or even months further changes take place, in virtue of which the coagula disappear, and the contents of the sac again become serous. As long as any diminution in the size of the tumor is observed, however slow in progress this may be, no repetition of the operation should take place; nor should such repetition be put into force as long as any considerable tenderness on pressure remains. It is indicated when the inflammatory condition has been quite transitory, and when the enlargement takes on an increase, or remains completely stationery for longer than six weeks. In some cases the repetition may be necessary from two to six times. When from the entrance of air or other cause, foul suppuration, with extrication of gas, is engendered, and there is tenderness on pressure, fever and loss of strength, a simple puncture should be made and a catheter left in or the aperture enlarged. In all such cases a most careful cleansing of the cavity, by means of repeated injections of water or decoction of bark should be effected. It has been said that by repeated iodine injections the contents of a cyst may be converted from a purulent to a serous fluid; but in this statement the author puts no trust—a similar result never being produced by injection of abscesses.

The statistics of the results of the iodine injection are given very differently by different authors. This seems to have arisen more from the mode in which the cases were chosen, and the degree of exactitude with which they were reported, than from trifling differences in the operative procedure. The author can only speak personally respecting six cases for which fifteen injections were employed. In only one of these did complete recovery take place, and that after a second injection. It was the only one of the six which united all the conditions necessary to secure a favorable issue. In a second case the cyst was bilocular, and a slight diminution of its size only resulted from five injections. The others were multilocular cysts, or the cysts contained a thick, gelatinous fluid—constituting cases which were, according to the author's present conviction, unsuited for iodine injection. In two of them no essential change was produced, and in the others the end of the patient seemed to have been hastened, partly through the speedy repetition of the operation, and partly through suppurative inflammation and peritonitis being induced.—*Zeitschrift der Aerzte zu Wein*, 1859, No. 48.

PROVISION SUPPLIES FOR LONDON.—The correspondent of one of our exchanges gives some interesting facts in regard to the provision supplies for London, taken from the statistics published in one of the Quarterlies.

Of fish, there are from our Eastern coasts sent up hundreds of tons every morning, chiefly herrings. The South Western Railway sends up annually four thousand tons of mackerel. The Great Western brings up one thousand five hundred tons of fish in the year; and the Brighton and South coast conveys fifteen thousand bushels of oysters, besides four thousand tons of other fish. These are speedily transmitted by fish mongers and street coster mongers over the whole town. Red mullets come from Cornwall, smelts and eels are brought by the Dutch boats, pyramids of lobsters from the Norwegian fiords, turbotts fattened on the Doggerbank, together with our Thames whitebait and "Natives," (oysters,) all of these find ready welcome and rapid consumption in incredible quantities. Sometimes twenty thousand lobsters are conveyed alive from the Norwegian coast to East Grimsley, in a single night, and are forwarded to London by the Great Northern Railway. Ten thousand more arrive from our own and the French coasts. "Four boiling houses receive these shelly ruffians, twisting and fighting, and for a trifle sum per score, change them from black to scarlet in twenty minutes." The lobsters are first killed by the insertion of a needle through the head. If boiled alive they would cast their claws. The lobster trade is chiefly in one man's hands, who pays £15,000 a year to the Norwegians, for this single article. It is positively declared by the traders, that the supply of fish to London is from three hundred millions to four hundred millions pounds weight per annum.

As to *flesh meat*, a million and a half of sheep, more than a quarter of a million of oxen, and calves and pigs in proportion, were brought to Smithfield alone, in London, in one year, (1853,) and the present annual supply must be greater. Much cattle now comes from the Continent, chiefly from Holland and Denmark. There is also a vast amount of country-killed meat brought to the metropolis, including supplies from Scotland. About fourteen millions pounds weight of flesh meat are annually consumed. The quality as a rule is excellent.

There is a great consumption of *chops* in London, and they are generally first rate, and well served. A butcher in the city proper, says: "Sometimes I cut one hundred saddles into mutton chops in one day."

The quantities of *game* and *wild birds* sent to salesmen almost exceed belief. When the shooting season begins in the Highlands of Scotland, it is not unusual for one firm to receive five thousand heads of game, and as many as twenty thousand to thirty thousand larks are often sent up together. Ostend sends annually six hundred thousand rabbits; from Ireland come flocks of plovers, and quails from Egypt and the South of Europe. On one occasion,



seventeen thousand of these birds were sent from the Roman Campagna. Of two millions of fowls for the London tables, the greater number come from the two counties of Sussex and Surrey; many also come from Ireland. The bulk of the geese, ducks, and turkeys come from Norfolk, Cambridge, Essex, and Suffolk. The estimate of all the poulterers' stock annually consumed here, including hares and rabbits, amounts to some unknown figure between six millions and ten millions.

*London milk* is not so bad as its old reputation leads the world to suppose. I do not believe that either chalk or sheeps' brains are largely mixed up. Certainly "the cow with the iron tail" (the pump to wit) gives copious dilutions to the kindly gifts of the cow proper. And there are 200,000 of cows in the metropolitan dairies and suburbs—one of them within a stone's throw of where I write, and in which beautifully clean, carefully tended, glossy fat, well fed, are about one hundred cows of the finest breeds. Much milk also comes from the country, one railway bringing three million quarts annually.

The *vegetables* are chiefly raised in the alluvial valleys, between London and Greenwich. Thirty-five thousand persons are employed in furnishing them to the dishes of the metropolis. Whenever there is a dearth of vegetables, telegrams are sent for supplies to Holland, France, and Belgium, and, in answer to the appeal, France has sent by sea and the South Eastern Railway as many as one hundred tons of peas, and twenty-five tons of plums, and ten tons of black currants, in a single night.

The *liquids* consumed in London, besides water, (now increasingly used in connection with public fountains and the progress of temperance,) amount to nearly *a thousand million tumblers* of ale and porter.

Of *bread*, there are made four hundred and thirteen millions of half-quartern loaves, and buns and tarts in proportion.

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LOVE AND THE DOCTORS.—The following extracts are taken from "A Book about Doctors," recently published in London:

"Love has not unfrequently smiled on doctors, and elevated them to positions at which they would never have arrived by their professional labors. Sir Lucas Pepys, who married the Countess de Rothés, and Sir Henry Halford, whose wife was a daughter of the eleventh Lord St. John of Bletsoe, are conspicuous among the more modern instances of medical practitioners advancing their social position by aristocratic alliances. Not less fortunate was the farcical Sir John Hill, who gained for a bride the Hon. Mrs. Jones, a daughter of Lord Raneleigh—a nobleman whose eccentric opinion that the welfare of the country required a continual intermixture of the upper and lower classes of society, was a frequent object of ridicule with the caricaturists and lampoon-writers of his time.

"But the greatest prize ever made by an *Æsculapius* in the mar-

riage market was that acquired by Sir Hugh Smithson, who won the hand of Percy's proud heiress, and was created the Duke of Northumberland. The son of a Yorkshire baronet's younger son, Hugh Smithson, was educated for an apothecary—a vocation about the same time followed for several years by Sir Thomas Geery Cullum, before he succeeded to the family estate and dignity. Hugh Smithson's place of business was Hatton Garden; but the length of time that he there presided over a pestle and mortar is uncertain. In 1736, he became a Fellow of the Society of Antiquaries, but he withdrew from that learned body, on the books of which his signature may be found, in the year 1740. A few months after this secession, Sir Hugh led to the altar the only child and heiress of Algernon Seymour, Duke of Somerset. There still lives a tradition that the lady made the offer to Sir Hugh immediately after his rejection by a famous belle of private rank and modest wealth."

How some of the wooers looked when wedded, the annexed passage will show:

Dr. Cadogan, of Charles the Second's time, was, like Sir John Eliot, a favorite with the ladies. His wont was to spend his days in shooting, and his evenings in flirtation. To the former of these tastes the following lines refer:

" 'Doctor, all game you either ought to shun,  
Or sport no longer with the unsteady gun;  
But, like physicians of undoubted skill,  
Gladly attempt what never fails to kill,  
Not *lead's* uncertain dross, but *physic's* deadly pill.'

"Whether he was a good shot we cannot say; but he was sufficiently adroit as a squire of dames, for he secured as his wife a wealthy lady, over whose property he had unfettered control. Against the money, however, there were two important points figuring under the head of 'set-off'—the bride was old and querulous. Of course such a woman was unfitted to live with an eminent physician, on whom bevy of court ladies smiled, whenever he went west of Charing Cross.

"After spending a few months in alternate fits of jealous hate and jealous fondness, the poor creature conceived the terrible fancy that her husband was destroying her with poison, and so ridding his life of her execrable temper. One day, when surrounded by her friends, and in the presence of her lord and master, she fell on her back in a state of hysterical spasms, exclaiming, 'Ah! he has killed me at last. I am poisoned!' 'Poisoned!' cried the lady friends, turning up the whites of their eyes. 'Oh! gracious goodness! you have done it, doctor!' 'What do you accuse me of?' asked the doctor with a surprise. 'I accuse you—of—killing me—ee,' responded the wife, doing her best to imitate a death struggle. 'Ladies,' answered the doctor, with admirable nonchalance, bowing to Mrs. Cadogan's bosom associates, 'it is perfectly false. You are quite welcome to open her at once, and then you'll discover the calumny.'"

*The Tendencies of the Present Day in regard to the Doctrine of Debility, and the Treatment of Disease by Stimulants.*

Dr. Samuel D. Gross introduced the subject for discussion, by remarking upon the numerous revolutions in medicine. Change is written everywhere. Each age has its absurdities and inconsistencies. This is natural so long as each one acts as a free agent. Were there no changes there would be no sound progress, and the science would become stagnant.

It requires no prophetic eye to perceive that we are on the verge of a most fearful revolution in medicine; hence it is proper to pause and inquire, "Watchman, what of the night?"

The tendency of the medical profession, at present, is to the abandonment of all active depletory measures, and to the employment of stimulants, on the ground that a change has occurred in the type of disease, and that man is no longer able to bear the former active treatment. Many practitioners even coincide with the late Dr. Todd, of London, in the belief that leeches can never be used with safety.

The inquiries of the present paper will be two: first, has there really been any change in the type of disease? and, secondly, are the people of the present day less capable of resisting active depletion? The endeavor will be to show that both of these views are untenable; that they originate in misconception and superficial observation. The stimulant treatment is not new. We find in the last century, all over Europe, the Brunonian system exercising a powerful sway over the minds of many otherwise enlightened practitioners—some even supposing that in it they had discovered the philosopher's stone in the treatment of disease. John Brown, the author of this theory, pretended to have made a stupendous discovery, founded upon his own personal experience. The speaker then gave a brief biography of this remarkable personage, and the progress of his doctrines through England and the Continent, especially in Italy and Germany.

After this brief digression, the lecturer came to the consideration of the two questions proposed.

Is there really a change in the type of disease? and is it true that mankind are unable now to bear depletion when laboring under inflammation, as well as in other times? To the first he would reply in the negative. In a practice of upwards of thirty years, he had seen no reason to justify such an opinion. Diseases seem the same now as when he entered upon the practice of medicine. Even in epidemics no change of type seems to have occurred; but in ordinary inflammatory diseases the only changes to which they are liable are dependent upon individual peculiarities, etc. In point of facts, the morbid action is essentially the same, varying in degree but not in character. The same causes which were in operation thirty years ago, act now.

Entertaining these convictions, he need scarcely say that the



treatment so much insisted on by Bennet, Todd, and others, of all inflammatory affections, by stimulants, has not only no foundation in truth, but is at direct variance with the best interests of the sick and the reputation of the physician. It is difficult to conceive how any enlightened physician can bring himself to entertain such a belief.

The only safe way to treat disease is to look at every case as making its own laws, which have reference to the exciting cause, the structure involved, the duration of the attack, and the prior state of the system. If the stimulant school see nothing but reduced action or depressed vital power, it proves pretty conclusively one of three things: that they are incapable of making accurate observation, that they are blinded by prejudice, or that they have to deal with a class of patients whose habits and conditions are such as to forbid the employment of any other method of cure. The first two we cannot believe, and we therefore come to the conclusion that these gentlemen deal only with depraved, worn-out constitutions. But here we are at fault; such an idea would be absurd—they must certainly encounter occasionally a stout, robust patient. Nor can it be the stage of the disease at the time of their arrival on the scene. Fashion, all are aware, has its influence in medicine as well as dress. John Brown, a dissolute doctor, became the leader of a new sect in medicine, which retained its supremacy for nearly a quarter of a century—its sole basis being the relief which he experienced from alcoholic potations and laudanum when suffering with the gout. Unity of disease and the lancet were the great weapons of Rush. Purgatives ruled at the time of Hamilton. Dyspepsia, disease of the liver, etc., each had their turn as the fashionable disease. At present everything is a change of type in disease, and stimuli are the remedies; bleed the patient, and he dies; purge him actively, and if he recovers it will be very slowly. Just now the cellular pathology of Virchow is coming into notice, and seems destined to enslave to a great extent the medical mind. Although most medical men, as well as the community at large, at present regard blood-letting with terror, yet it has been beneficially employed millions of times. No doubt it has been abused. We can hardly reconcile with our notions of propriety the loss of *two*, much less of *three hundred* ounces of blood, in the course of a few days, for the cure of an idiopathic or traumatic inflammation, and yet such cases are easily found of a well-authenticated character in the annals of surgery.

Dr. Francis, of New York, distinguished alike as a skillful practitioner and an accomplished scholar, is a living monument of this heroic treatment. In a violent attack of croup, he lost, in a few days, nearly three hundred ounces of blood. Physick, in an attack of yellow fever, in 1787, was bled to the amount of one hundred and seventy-six ounces. No one at the present day would dare to follow such an example. It is no longer the fashion; the lancet grows rusty in its case, and the cutler has almost ceased to manufacture it. Even the occupation of the leecher is almost gone.

When a student in this city, thirty-two years ago, it was common, in attacks of acute pleuritis, to bleed the patient three or four times, and sometimes even that often a day—the same orifice being repeatedly opened for that purpose.

If we inquire into the causes of these revolutions, we shall find them not in a change of type, or in the powers of the system to withstand the effects of inflammation, but in a greatly enlarged knowledge of remedies, and of their application to the cure of disease. The use of quinia and morphia is now much better understood than formerly, and the antiphlogistic virtues of aconite and veratrum viride were entirely unknown until a very recent period. Quinia has become the great remedy in malarial affections; opium is a powerful adjuvant in allaying pain and procuring rest, both to the part and the system, and aconite and veratrum viride exercise so astonishing an influence in controlling arterial action as to render them special favorites with every enlightened practitioner. They have, in fact, taken the place of the lancet, tartar emetic, etc.

Thus we readily see why blood-letting has fallen into desuetude, unmerited, certainly; for, spite of all, an early spoliative venesection, and the judicious use of the more heroic articles of the *materia medica* would often do more in saving structure and function than any of the present popular remedies.

Practitioners are too prone to go to extremes, and be led away by specious theories. Losing sight of common sense, and forgetting the teachings of experience, they readily grasp the shadow and forsake the substance. Hence the discordant views which so constantly agitate our profession, perplexing the public mind, and impairing our influence. Hence the strong hold which all forms of quackery have taken upon the people.

The past is pregnant with useful lessons. It teaches, on the one hand, the futility of all exclusive systems of medicines, and, on the other, the importance of being governed in our views of pathology and practice by common sense, aided by a chastened experience, which holds fast to the good and useful and discards that which is hurtful. Its motto is enlightened, unprejudiced conservatism, ever ready to enlarge its boundaries by cautious observation and induction, and resolved to avoid exclusivism in every form. Standing upon this elevated and philosophical platform, rational medicine avails itself of all that is useful in mitigating or curing disease, not disdaining the lancet, etc., on the one hand, or, on the other, a recourse to stimulants.

In conclusion, while proclaiming himself an advocate of an enlightened eclecticism based upon experience, reasoning, and philosophy, he stated emphatically that he was not an advocate of large doses, or of the indiscriminate use of any medicine whatever. A judicious combination of a few well-selected articles, or occasionally the exhibition even of a single substance, united with absolute rest and a proper regulation of the diet, will generally accomplish the object much better, immediately and prospectively, than the polypharmacy and heroic treatment so much in vogue in cer-

tain quarters only a few years ago. As the practitioner grows older, he almost uniformly gives less medicine, satisfied that he is generally only the assistant of nature, and not her master.

Dr. Coates found the subject very copious, and one that might lead the discussion into many ramifications. He remembered some very striking changes of opinion, to which it was demanded that we should surrender our judgments. Many years ago, when Dr. C. was a resident in the Pennsylvania Hospital, the late Dr. W. P. had just arrived from Europe, brimful of the doctrines of Professor Broussais, of whom we had never before heard. At an early period, nearly the following conversation occurred, which Dr. C. would promise to rehearse correctly, and even accurately; although, in this point, we omit the style of the Society of friends in which it took place:

A. "Why, doctor, they tell me you say that there is no such thing as fever! Is that so?"

B. "To be sure, it is so. There is no such thing."

A. "Why, what ails that patient in the ward, then?"

B. "Why, all those appearances [meaning the general phenomena of the case] arise from the pain!"

A. "Pain! Why the man feels no pain. I examined him particularly on that point this morning."

B. "Oh! but that is because he cannot perceive the pain. The brain is in a state of oppression, and cannot perform its functions."

A. "Well! but, doctor, how is it possible that the heat, the frequency of pulse, the thirst, and other general effects can be produced by a pain which the man does not feel?"

B. "It is all owing to the pain of the organs—the suffering of the organs."

This was evidently a translation of Broussais' phrase, "*Le cri de douleur des organes souffrants.*" Such a strange, vague, metaphorical and poetical use was made of words in a case calling for the utmost strictness and clearness of language!

After a remonstrance on the inconvenience of such expressions, the term "fever" was explained to mean *idiopathic* fever, not arising from local inflammation. On this the respondent, then young, refrained from the expression of an opinion, but inclined for the time, and until he should accumulate further study and observation, to the same conclusion.

Almost without a pause, Dr. C. was then assured that "there was nobody in the whole world that knew anything at all about the practice of medicine but the French, and none of them but Dr. Broussais." The respondent, willing to include his senior in the list of well-informed physicians, proposed adding "and his pupils." "And his pupils," was the rejoinder.

Another pause then ensued, succeeded by the following:

A. "Well, doctor, since you say so, I am willing to believe that Dr. Broussais has made the most valuable discoveries and improvements, and that they have been of the greatest use in his own



country, and will be so to us when we shall get to understand them, but, to set down all the observations of all sorts of men, of all degrees of talent and knowledge, in all ages of the world, and in all nations, as equal to nothing, seems to me extravagant."

B. (With a very quiet and patient manner,) "I said nothing at all about discoveries and improvements. What I said was, that there was nobody in the whole world that knew anything at all about the practice of medicine but the French, and none of them but Dr. Broussais."

A. "And his pupils?"

B. "And his pupils!"

After this, little remained to be said.

When an interval of years had elapsed, Dr. Coates became the senior physician of the Pennsylvania Hospital; and, at the same time, was an editor of a journal. He then deemed it his duty to make public trials of the Broussaisian method of treatment. This opened another wide field for discussion before the Society; but Dr. Coates would confine himself, on the present occasion, to a most peremptory and unqualified denial. He denied, in this manner, that he, and those who co-operated with him, had *ever* taken excessive quantities of blood from patients affected with fever, or that they had *ever* starved such. It was very rarely that patients had leeches or cups applied to them more than twice, and he did not believe that any individual had been subjected to another process more than three times.

Now, with American leeches, no European ones being employed, those used averaging a small size, and not a very good quality, he investigated the fact with very great care, and a number of times, and became absolutely certain that thirty or three dozen such leeches very seldom ever occasioned the loss of more than 4 ounces of blood, and did not probably average more than  $3\frac{1}{2}$ . Now, 3 times 4, or 12 ounces, 3 times  $3\frac{1}{2}$ , or  $10\frac{1}{2}$  ounces, still less twice 4, or twice  $3\frac{1}{2}$ , or once either 4 or  $3\frac{1}{2}$ , were not extravagant quantities of blood to be drawn from fever patients.

The next god of the idolatry of comers from Paris was Professor Louis. From one of his most respected and influential pupils, Dr. C. received the following propositions:

Professor Louis had reduced important parts of the science of medicine to a certainty equal to that of the mathematics, and was doing the same service by more of it.

So very little was really known in medicine that the interlocutor believed it could be all contained in a very small book, no bigger than "*that*," exhibiting part of what printers call a "twenty-four-mo," about the fifth part of an inch thick.

A proposition demonstrated by Professor Louis' method was absolutely certain, and could not be controverted by any means whatever.

This required the thorough examination of all parts of the patient's body after death.

No notes not actually written at the time and on the spot were worthy of the least confidence.

No physician's experience of any case, or number of cases, was of any value for more than two years. After that, all inferences became conjectural and uncertain.

No tubercle ever occurred in the lungs, unless there was one at the vertex of the lungs.

No tubercle ever occurred in any other part of the body, unless there was one in the lungs.

From these two last, and other special rules, exceptions were continually occurring, and they were sometimes more numerous than the exemplifications of the law. Two cases of exception, in succession, occurred in negroes; and it was then apprehended that the rule would turn out to be that negroes differed from white men in this respect, and followed the example which Dr. C. thought laughable, of children and monkeys. This was stated to be that tubercles in such were equally disseminated throughout the lungs. They are irregularly scattered, and not equally so; nor do disseminated tubercles occur at all in any characteristic frequency in the case, the tubercles being generally of the common size.

With regard to the present new doctrine, the speaker was glad that Dr. Gross had, with so much justice, described it as a revival of Brunonianism, which had been so generally held to be confuted long ago. The practice had been amply tried in this city by Dr. Parrish, who, as well as his compeers, had found it necessary to greatly modify it, in accommodating it to daily judgment, experience, and the variety of cases.

The present discussion called for an account of Dr. Samuel Colhoun's cases. These were a series of fevers of a mild typhous character, and all of which would probably have recovered under any treatment that did not too wildly diverge from good sense, prudence and humanity. Dr. Colhoun lost none of them; and the treatment, besides hygienic cases, consisted exclusively in as much as they could be induced to swallow of arrow-root and other watery nutrients. Dr. C. could state that the pulse, in every instance, became fuller and softer after the institution of this practice in the individual; but, except annoyance at being urged to drink, there was no other remarkable character in them. It is most probable that they were mild dothinenteric cases.

*On the Illumination of the Cavities of the Body by means of Electricity.* By M. FONSSAGRIVES.

A long time ago the author had conceived the idea that the electrical light might be advantageously substituted in diagnostic researches, or in operative manœuvres, for the ordinary methods of illumination, which are either insufficient in intensity, or defective by the color of the light, or embarrassing by the impossibility of using them without interfering with the space required for instruments, and by the necessity, on account of the heat evolved, of keeping the light at a great distance from the surface to be illumi-

nated. The whole problem consisted in discovering a source of light, with little or no calorific action, which might be condensed in tubes of small size and of diversified form, and which would be of sufficient whiteness not to alter materially the color of the organic textures lighted up by means of it. By the assistance of M. Th. du Moncel and M. Ruhmkorff, this problem seems to have been solved in a satisfactory manner. M. du Moncel, having observed that the vacuum tubes of Geissler do not become heated under the influence of the electric light transmitted through them, and knowing, moreover, that this light is more brilliant in proportion as the tubes of communication between the terminal balls of the apparatus are of a smaller diameter, suggested that, in taking an apparatus of that kind, in which a long tube, almost capillary in size, should be bent upon itself, and convoluted in the manner of the electromagnetic multipliers, we might obtain not only a kind of luminous cylinder, capable of being introduced into narrow cavities, but even a kind of electrical beacon, on certain points of which the light might be concentrated, without any risk either of over-heating or of commotions of any kind. The first part of the problem was, therefore, solved. With regard to the color of the light in the tubes, as this depends entirely on the nature of the gas on which the vacuum has been made, and as the color is white with certain mixed gases, as carburetted hydrogen, carbonic acid, hydrochloric acid, &c., all that is required to meet this part of the problem is to prepare the tubes with suitable gases. M. Ruhmkorff, to whom the construction of these tubes was entrusted, and who has introduced several improvements in their formation, has obtained results which are quite satisfactory. He has found out a mixture of gas, which gives a suitable white light in the tubes; and experience has shown that the amount of light afforded by the apparatus is more than sufficient for the requirements of medicine and surgery.

Without for the present tracing absolutely the field of application of this new means of illumination, the following may nevertheless be pointed out:—1. As a means of diagnostic exploration; in the examination of accessible organic passages, for the purpose of recognizing their normal or pathological condition. 2. As means of illumination to assist experimental action. It is easy to foresee the utility of this means in those operations which present, among their greatest difficulties, the impossibility of lighting up suitably the surfaces on which instruments are to act. In particular, the following will derive advantage from this new application: 1st. Staphyloraphy; 2d. Operations for vesico-vaginal fistula; 3d. Extirpation of naso-pharyngeal or uterine polypi; 4th. Excision of the tonsils, &c. Certain dental operations, also, may be expected to be rendered more easy of execution by this proceeding. It may be questioned, also, whether the field of the retina might not be illuminated more easily and completely by the same means.—*Acad. des Sciences*, Jan., 1860.



*Report on Home Adulterations.*

The committee upon the subject of Home Adulterations, appointed at the annual meeting of this association held in Boston last year, respectfully report:—

The subject of home adulterations is one worthy of the careful consideration of every member of society, whether pharmacist, physician or consumer—and *all* belong to the latter class—because of the pernicious and often dangerous results which ensue from the use of articles mixed with deleterious substances, or deficient in power, owing to inert substances used to enhance the profit of the unscrupulous tradesman.

Your committee feel deeply the responsibility of their duty; they feel that much ought to be said and done which they dare not take the responsibility, as individuals, of saying and doing. They trust that the time will come when State legislators, or the General Government, will cause such penalties to be affixed to the selling of adulterated articles that the business will cease to “pay,” and that “honesty” will be practiced because it is “the best policy.” During the past year your committee have had many articles of drugs, medicines and food submitted to their examination, and they have felt more and more the necessity of some means being devised for checking this abominable practice, which, in the language of another, “is undermining the very foundation of trade, viz: faith in commercial integrity.”

We refer to our published report in our last year’s “Proceedings” for the definition of an adulteration as given by Dr. Hassall, of London, who has done more than any other to draw public attention to the alarming facts of this species of fraud. He says an adulteration consists in the intentional addition to an article, for the purpose of gain or deception, of any substance or substances, the presence of which is not acknowledged in the name under which the article is sold. The change of an article entirely, and selling it under a false name in place of another, constitutes a *substitution* and not an adulteration.

Thus briefly referring to the introductory of our last year’s report, we would say that all the views we there express we still sustain. We have, during the past year, seen nothing to cause us to change our opinion as to the dangerous and hurtful tendency of this unlawful practice; on the contrary, all our experiences confirm us in the views we there express, and tend to convince us more fully that the public do not know the extent to which they are cheated, nor would any intelligent community submit to the imposition were they once fully aware of the danger and risk they are exposed to.

Adulterations are practiced for three principal reasons, as briefly stated by the author of “Falsification of Food:”

*First.*—For the purpose of making the substance more salable, by improving its appearance by the addition of some body, either innocuous or otherwise.

*Second.*—To depreciate the quality by adding some substance

which will diminish the *real*, without altering the *apparent* strength or general appearance. This is generally a very deadly fraud.

*Third.*—To depreciate quality and “extend” the quantity, by the addition of some simple substance, as water, or, if a solid body, as sand, gypsum, &c.

The matter of adulteration of articles of food is quite properly within the scope of a report on home adulterations; and your committee propose entering somewhat largely into this part of the subject, trusting that the association will grant them indulgence.

It is a sad and alarming fact that “death lurks in the pot;” that the community are exposed to injury, disease and death, by the very food they live upon, and the tea, coffee and water they drink.

It is often urged in deference to many of these nefarious practices, such as the addition of some of the salts of copper and lead, or cocculous indicus, to articles of daily consumption, that they are “used in *very small* quantities.” We grant the statement to be true, and are deeply, we trust truly, grateful, as we ought to be, that we are not murdered outright, but scientifically and handsomely killed by inches.

Who can estimate the results of the continued introduction into the system, day by day, and month by month, of these poisonous additions to articles of food. No substance, however small its daily use, which is decidedly poisonous and pernicious, can be used without producing, finally, disease and even death.

Any physician can tell you of cases where the seeds of painful and lingering disease have been planted by some slow, insidious poison. All of you are doubtless aware that disease often arises from the use of water through lead pipes; and who can say that of the many cases of “unknown disease,” some of them may not have been caused by poison taken in the small but oft-repeated doses of the daily food.

We are aware that many, and among them even those of scientific reputation, scout the idea of any trouble arising from water through lead, but your committee feel that it is of such great importance that they cannot pass it by without a brief notice. It is a question upon which scientific men have differed; but with the present knowledge of the subject that we have, your committee can but recommend, in every practical case, the use of some other substance than lead for the conveyance of water to be used for drinking purposes.

Where so large a possibility of injury exists, prudence would dictate an entire avoidance of the danger.

One of your committee has been fully convinced of the great danger attending the use of water through lead pipe. He has known lead to be taken from a portion of the liver of a person who died with every symptom of acute lead poisoning, and who was considered by the attending physicians to be a victim of lead disease.

The susceptibility of individuals to this poison varies very greatly; many persons apparently suffer no inconvenience, although

subjected to precisely the same exposure which proves fatal to others.

One of the most striking cases of extreme susceptibility to this species of poisoning which has come to the knowledge of your committee, is the following:

A man aged thirty-five, who was a house-servant in the city at the time of his sickness, had never been exposed to the influence of lead, as far as could be ascertained, previous to entering his place of service.

He was employed by a private family, consisting of persons both older and younger than himself, and who had drank the water through the lead pipe for several years, in fact, ever since the introduction of the water into the city, without the slightest apparent injury. The man referred to was from the country, and perfectly healthy and strong upon his arrival in the city. He was a fleshy and robust man, and never had noticed any indications of paralysis.

He had been in his situation, as servant, exposed to lead poisoning in no other way than drinking the same water that the family used, only three months, before he was attacked with violent symptoms of lead paralysis, without the premonitory symptoms of colic.

He was *completely* paralyzed, excepting the muscles of respiration and the heart.

Even the muscles of the eyelids were useless, and the "blue line" upon the gums was apparent, which is the well known and usual attendant upon cases of lead poisoning.

Under treatment of iodide of potassium he completely recovered.

If such serious results *can* occur, is not the matter one worthy the attention of those who have in charge the public health.

The singular mode in which the lead is sometimes introduced into the system, also calls for care and watchfulness, to prevent the unknown and therefore unsuspected danger.

One of the members of your committee was called upon by a physician, who had a patient, a farmer, suffering apparently from lead poison, to make an analysis of some cider. From what source the lead was taken was a mystery. The water used by the family was all drawn by an old-fashioned "well sweep" and bucket; no possibility seemed to exist that lead *could* be the cause, and yet all the symptoms were those of a plainly marked case of lead-poisoning. The attending physician finally thought of the cider which the farmer was in the habit of drinking, and as a matter of extreme precaution decided to have a portion of it analyzed. From less than two quarts of that cider, metallic lead was obtained in substance sufficiently large to hold in the hand and prove its nature beyond question.

This caused an examination of the cask of cider, and, from the bottom of the cask, upon draining off the cider, was taken a pint bowl full of mixed sediment and white lead.

This, of course, readily accounted for the farmer's lead disease.



The cask used had formerly been filled with oil, and in putting it together the edges of the staves had been plentifully coated with lead, ground in oil before driving the hoops, to prevent the possibility of leakage; afterwards, when used for cider, the lead was dissolved out, and the serious consequences followed.

These instances, taken from many, are given to show that those who speak and feel warmly on this subject of lead-poisoning, do have some reason for their opinions and feelings.

We are aware that this is not strictly an adulteration, but, certainly, after all that has been said and written upon this subject, those who, being aware of the facts in the case, and who could avert the danger, go on deliberately using lead pipes for drinking waters, place themselves in the situation of the man who sets spring guns and gets shot himself. When lead pipes are used in preference because they are "cheaper" than gutta percha, block tin or iron, does not *this* constitute an adulteration of the water?

We are led to speak of this subject of lead water, perhaps going beyond the limits which the Association have laid down for our committee, by having met with, and known many instances where sad trouble has been produced by this often despised cause.

The next article we would ask your attention to is Milk:

During the past year it has been the duty of one of your committee to analyze a large number of specimens of milk. As many of you are aware, there exists a statute in some States regarding the sale of adulterated and unwholesome milk, and by virtue of that statute an Inspector of Milk is appointed by the authorities.

During the past year a large number of specimens have been analyzed, at the request of the Inspector of Milk for the city of Boston. With but one single exception, every specimen was found to be adulterated, many of them very largely.

The plan adopted has been to compare the amount of food contained in any milk examined, with that which, by the analysis of a very large number of specimens of pure cow's milk, was found to be the *average* amount. The amount of food being ascertained in any given specimen, it is easy, by comparison, to find the relative worth of the sample to the standard, and thus ascertain the dilution with water.

The amount of milk-sugar and salts was also estimated, and the difference between the weight of the milk started with, and the sum of the weights of the food, milk-sugar and salts, gave the weight of the water in any sample analyzed. The amount of water which any milk contained, was not made the basis of comparison at all; the addition of water to milk increases in a much larger degree the worth of the milk as a food-yielding fluid, than it increases the *percentage* amount of water, and as the amount of *food* really constitutes the value of the milk, the analysis were placed on this alone.

Water is the principal adulteration of milk; but to conceal this fraud and destroy the "skim milk" appearance, recourse must be had to several other adulterations, as the addition of coloring mat-

ter, salt, etc., to increase the weight and improve the flavor, both of which it does, the latter quite remarkably.

Sometimes poor milk, from cows that should not be milked at all, owing to their condition, is mixed with that sent to market. It is only by microscopical examination that this unwholesome and unclean milk can be detected. Specimens of this kind have been met with during the past year.

From the experience one of your committee has had, he does not hesitate to say that the adulteration of milk is largely and systematically carried on. Who can judge of the amount of sickness caused to children by the use of this unwholesome and oftentimes poisonous food—poisonous, because decomposition has already commenced!

Much of the sickness among young children, in many large cities, may be fairly attributed to the bad and unhealthy milk which they almost of necessity receive; and to the poorer classes, those less able by other reasons to contend with such a diet, the greater portion of this milk is given.

The milk oftentimes is not served to consumers until the second day after it is taken from the cow, owing to its being transported long distances, and, when diluted with water, the process of decomposition is much more rapidly set up.

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### *The Local Treatment of Diphtheria.*

The *Union Medicale* has recently published two letters from M. M. Loiseau and Trousseau on the use of tannin and alum locally in the treatment of pharyngo-laryngeal diphtheria.

M. Loiseau, considering the false membranes, in all cases, to be but consequences of diphtheria, and, with the exception of croup, rather useful than injurious, provided their putrefaction be prevented, again lays stress upon the beneficial action of styptics, and especially tannin; these seem to convert the morbid secretions into an imputrescible epidermis, which affords protection to the denuded surfaces and promotes their cicatrization. M. Loiseau performs insufflation of alum five or six times a day, and of pure tannin, equally often; he states that a cure may thus be effected in three or four days, on the same principle, which M. Trousseau adopted in his practice in 1828. A quotation from an article published on the subject in 1833, by M. Trousseau in the *Dictionnaire Medical*, has elicited from the learned Professor a reply which we reproduce, as it explains the changes his views have undergone on the efficacy of the medical treatment of diphtheria, and more especially of croup.

“It is perfectly true,” says M. Trousseau, at the date of September 20th, “that in the epidemics of diphtheria, which from 1818 to 1828 prevailed in the departments of Indre-et-Loire, Loir-et-Cher, and Loiret, the disease of the fauces readily yielded to

frequent insufflation of alum, and to cauterization with muriatic acid or nitrate of silver. It is equally true that, when the complaint was met in its early stages, four or five days were sufficient to effect a cure, excepting, of course, when diphtheria had invaded the larynx.

"For ten years past, however, diphtheria has acquired in Paris and in the provinces a degree of gravity and of malignancy which it did not, by any means, possess thirty years ago; and I declare that it is now a long time since I have had the good fortune to see genuine pharyngeal diphtheria yield to treatment in four or five days. Common pseudo-membranous angina, or herpes of the fauces may be cured in twenty-four or forty-eight hours, but not real diphtheria such as we too frequently meet with.

"I resort to the same means as M. Loiseau and perform insufflation into the throat every two hours, and even every hour, if necessary, alternating the use of equal parts of sugar and alum or tannin. From time to time, I brush rather roughly the uvula and tonsils, before restoring to insufflation, in order that the medicinal agents may come into immediate contact with the mucous surface, and I consider myself very fortunate when, after ten days' treatment, all trace of false membranes has disappeared.

"In five adults whom, within the last few months, I attended with my friends Drs. Bernard, Patouillet and Blondeau, the disease lasted nine days in one case, and more than a fortnight in the others, and I repeat that it would have been utterly impossible to use with more persevering energy the remedies extolled by M. Loiseau, which I consider most useful, namely: alum and tannin.

"Appealing to the testimony of my learned colleagues of the Hospital for Infancy, M. M. Blache, Bouvier, Roger, See, and of Dr. Barthez, I find their statements are perfectly similar to mine, and that they agree with me in thinking that the singularly rapid, extraordinary and numerous cures effected by M. Loiseau may perhaps be accounted for by his not having allowed himself sufficient time to establish an incontrovertible diagnosis.

"It is difficult at first, and especially in children, to distinguish genuine diphtheria from pharyngeal herpes; and although in doubt I prescribe the local application of alum and tannin, I do not flatter myself that I have effected a cure of tonsillary diphtheria when, after twenty-four hours, I cease to detect in the throat any pelicular concretions."

We are happy to be confirmed by so competent an authority, in the remarks we have offered above on the importance of diagnosis in the appreciation of the various remedies recommended for a disease the gravity of which, far from subsiding, seems rather on the increase, especially when observed in an epidemic form.

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A DREARY PROSPECT.—The *Revue Contemporaine* publishes a very curious article, by Baron Ernouf, entitled "*De l'Appauvrissement du Sol et des Moyens d'y Remédier.*" Is it true that, owing to the gradual increase of population, the surface of the earth is



destined, in the course of ages, to refuse its aliment to the human race, and that a day will come when the sun shall shine on an unpeopled and desert globe? Such is the question asked by the author of the article—a question started by many eminent men since the commencement of the present century. It is a positive fact that, in consequence of the populous state of many countries which, during the middle ages, were but feebly peopled, it has become impossible to leave a large quantity of land alternately fallow for a certain time, until the soil has regained the phosphorus which, under different forms, it has yielded to the grain so necessary to the sustenance of man. It is equally true that the manure spread over the fields is insufficient to renew the supply of phosphorus; and that countries, like Mesopotamia for instance, which in the olden time were remarkable for their fertility, have since been transformed into deserts. Nor can it be denied that in taking food we absorb an enormous quantity of the fertilizing element—phosphorus—in order to build up and repair our osseous system, which is almost exclusively composed of phosphate of lime. Did we, on quitting this sublunary abode, restore to the earth what we received from it, the loss to the community would be comparatively small; but this is what we do not; our dead are enclosed within stone vaults or impenetrable coffins, and thus out of filial piety or respect for the dead in general, we are induced to withhold from our mother earth that very nutriment which she is so much in want of to feed us, while we multiply in nearly a geometrical ratio, and go on drawing upon her resources until she must be reduced in the end to a state of hopeless barrenness. And what is then to become of the human race? Will it have to live upon fish, or will anthrophagy be its last resort? To these dismal presentiments, the accomplishment of which we may comfortably view from the convenient distance of many centuries, Baron Ernouf replies by pointing out that from the moment chemists discovered that the great agent of fertilization is phosphorus under various forms, the problem may be considered in a great measure solved, since it is reduced to the simple condition of providing that great agent. Among the chief remedies against any deficiency in the natural supply, there are the importation of guano and the application of mineral phosphates to agricultural purposes; and, before these fail, other sources will undoubtedly be discovered by science. To these reflections of our author we may add that increase of population is invariably regulated by the means of existence, and that, whenever there is any danger of an excess of the former, Nature, applies a corrective in the form of some pestilence or other great calamity; even when men themselves do not, following their instincts, either destroy each other in battle, or drain off the surplus by emigration. These, history itself shows, are quite as natural checks, (though apparently of a political nature), as those alluded to which are independent of our will.

A LEARNED OCULIST.—M. Sichel is one of the most celebrated ophthalmologists of his day. His professional works are well known: "*Traité de l'Ophthalmie*," etc., his "*Memoir sur le Glaucoma*," his clinical lectures "*Sur les Lunettes*," and a vast number of other publications in Medical journals. We hear also of numerous precious *opuscules* still unedited, and of materials collected for a Complete History of Ophthalmology. To study the ancient authors, M. Sichel has made himself master of Arabic. Then we have that splendid work, "*L'Iconographie Ophthalmologique*," wherein art and science are equally highly developed, and to the completion of which its author has consecrated thirty years of his life and a portion of his patrimony. You have also heard of his passion for entomology. Who has not seen him on Sunday, rushing along the *Chausée d'Antin*, escaping from his eight or ten hours a-day of consultation, a green box under his arm, and a little net in his hands, running to the railroad like a school boy, in order to ply his entomological skill in the charming woods of *Ville d'Avray*? All the world knows that he is as skilled an entomologist as he is an oculist. But what, perhaps, you do not know, is that M. Sichel, Doctor of Medicine, of Surgery, and Philosophy, Licentiate of Letters, Member of a crowd of Academies and learned Societies, decorated with endless orders, etc. etc., is a Latinist, an Hellenist of the first order, and a consummate archæologist. His work on "*Les Cachets Oculistique Romains*," is well known. His researches on "*La Déesse Angérone et le culte Secret de Venus chez les Romains*," made a great noise when they appeared in 1846 and 1847. Then again Medical literature owes to him the publication, with French translation, commentaries, etc., of a Greek poem previously left in MS. in the *Bibliothèque de Paris*. Now we find him coming forward to undertake, at M. Litre's request, the arduous and difficult task of reviewing, translating, and commenting, the Greek text of Hippocrates On Vision, for publication in the ninth volume of the works of Hippocrates, which have been for so many years in the course of publication by the learned Academician. Few people have an idea of the labor undergone by M. Sichel in accomplishing his review of these five or six pages of the Treatise of Hippocrates on Vision. He has had to compare time after time, and word by word, eight Greek MSS. in our Bibliothèques, one MS. in the *Bibliothèque Medico-Laurentine* of Florence, three others in Venice and Copenhagen, the variations of two MSS. in the Library of St. Marc, at Venice, the MS. notes added by James Cornarius to his Aldine copy of Hippocrates; to consult two Arab MSS. in the Bodleian Library at Oxford, erroneously considered as a version of the "*Book on Vision*," and found by the learned oculist, to his great disappointment, to be merely an Arab treatise on Diseases of the Eye, to which the author, who is unknown, has thought fit to attach the name of the Physician of Cos. He has had to review all the editions of Hippocrates from 1526 to the present time—more than a dozen; to divide the work into chapters; explain the most important parts;

to run through Mercuriali, Haller, Gruner, Fabricius, Jugler, Kuhn, Dezcimeris, Andreæ, etc., all of whom deny that this treatise was written by Hippocrates; and lastly to translate into French these memorable pages, where for the first time we find the rational treatment of granulations of the eyelids laid down. M. Sichel has developed himself thoroughly in this work. He is, indeed, a man for whom the tumult and amusements of the world have no attractions, who passes his life between medicine, the study of natural sciences, and the cultivation of letters; and who, so far from seeking to increase his practice, does all he can to limit it.—*L'Union Med.*

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*New York Academy of Medicine—Stated Meeting, Dec. 8, 1860.*

Dr. Squibb read a paper on Medical Metrology, of which we give the following abstract: The confusion existing in the use of weights of the same name but different value, as in the case of the troy and avoirdupois pounds and ounces—the necessity of pharmacutists keeping both sets, the one to buy and sell by, the other to compound by—and the failure on the part of the medical profession in its attempt to enforce the provisions of the Pharmacopœia in the use of the troy pound and ounce, were given as the primary circumstances which render a change in the present system necessary. This change, though imperative in the practice of making preparations for prescription uses, is by no means so much needed in prescribing and compounding prescriptions, for although pharmacutists generally fail to supply themselves with the troy ounces, and therefore use the 9 per cent. smaller avoirdupois ounce in making tinctures, etc., yet they always have the divisions of the troy ounce from two drachms downward, for prescription uses. Tinctures of opium, cinchona, etc., are therefore commonly made by the use of the avoirdupois or small ounce. The measure of the menstruum, however, which governs the quantity of the resulting preparation, being taken correctly, because there is no confusion in this respect except that which arises from the commonly incorrect graduation of the measures, the resulting preparation will be deficient in medicinal strength just in proportion as the avoirdupois ounce is lighter than the ounce intended by the Pharmacopœia, namely, 9 per cent. But when these tinctures come to be used in prescription, they are used as being of full strength. The practical difficulties to be overcome in the change are, first, the necessity for two sets of weights of different value, and secondly, the use of the smaller weights where larger are intended. The use of avoirdupois weights cannot be prevented nor controlled because it is the common legal commercial usage.

The Council of Medical Education and Registration of Great Britain, in performing that part of its duties which consisted in consolidating and revising the British Pharmacopœias, has adopted



a change by which the troy weights are altogether abandoned, and the common avoirdupois weights are substituted for them. But as the avoirdupois ounce was not well adapted to medical use because it contains a fraction of a grain ( $437\frac{1}{2}$  grains) and because it is not capable of being divided without still more troublesome fractions (as  $218\frac{3}{4}$  grains,  $109\frac{3}{8}$  grains,  $54\frac{1}{16}$  grains,) it was decided to adopt a new division of this ounce, corresponding in names and numbers with the established apothecaries' division of the troy ounce, namely to divide the avoirdupois ounce into 480 parts to be called grains, 20 of these to make a scruple, and 60 a drachm, thus making a new drachm, scruple, and grain, of different and inferior value to the old one. The value of the new drachm in old grains is nearly fifty-five grains, and the grain is  $\frac{1}{91145}$  of the old grain. This plan is stated to accomplish the primary object in view in a simple way easily understood, but to be liable to many serious disadvantages, particularly its use in this country. First, it makes a radical change and increased confusion, which reaches even to the practice of prescribing and compounding prescriptions, where it was not absolutely required, and yet does not attain to the advantages or perfection of the French metrical system; whilst this latter system is so rapidly becoming universal, with advantages so pre-eminent, that it is on all hands confidently looked upon as the system to be adopted by all at a no very distant day. Another grave disadvantage for our use is that it could no more be enforced upon our pharmacutists than the present troy system, while it involves the necessity of more new weights, and setting aside of old ones. The result of its adoption here would probably be similar to the present result in the instance of the troy weights. Some would buy them and others would not, and the present confusion would consequently be increased. Another disadvantage would be in its illegality here, and the liability to meet with resistance from the law, since to create a new grain of a value inferior to that of the legal standard would probably involve the same principle and same penalty, though not done with the same object, as the creation of a gallon measure to be so called, but to be only  $7\frac{1}{2}$  pints. It is nevertheless highly desirable, in view of our common language, literature, and practice, that our Pharmacopœia and professional usages should be as far as practicable uniform with those of Great Britain. They have made their change without the slightest reference to our wants or abilities, and we are now forced to adopt their change, or to sacrifice the important advantages of uniformity. In order to obtain an unbiased expression of the judgment of the Academy as to whether the advantages to accrue from uniformity were sufficient to counterbalance the disadvantages of the system as applied to the necessities of this country, the writer of the paper then introduced a preamble and resolutions as follows:

*Whereas*, This Academy recognises the expediency of making some change in medical metrology whereby the materia medica may be better secured against the effects of the common disregard of the present troy weights of the Pharmacopœia; and *whereas*,

it is understood that the Committee of Final Revision and Publication of the Pharmacopœia has not yet taken action upon this subject, therefore

*Resolved*, That this Academy offers its judgment upon the subject, as a voluntary contribution to the Committee of Final Revision and Publication of the Pharmacopœia, with a view to aid that Committee in arriving at the best results that may be in its judgment practically attainable.

*Resolved*, That it is the judgment of this Academy that the change recently adopted for the consolidated British Pharmacopœia, is the best that can at present be suggested, and that in view of a desirable uniformity with the British Pharmacopœia this change is recommended for adoption in the United States Pharmacopœia.

After an apparent general concurrence in the preamble and first resolution, and a few remarks upon the second resolution, the Academy did not appear to be willing to adopt it against the disadvantages enumerated, at least until after the matter should lie over until the next meeting. The writer of the paper then stated that in the event of the Academy being unwilling to adopt this resolution, and desiring to go further into the subject in its various bearings, he had prepared some account of another change, which he proposed as a substitute for the British change, but which he had not proposed to present until some definite action was taken upon the resolution, since he feared that any views likely to be held by a single individual might be one-sided or partial, and might confuse, if they did not prejudice, the action of the Academy upon the resolution. The remainder of the paper, proposing the substitute, was, however, directed to be read, in order that the Academy might have the whole subject before it at once.

The proposed substitute was, first, that the present table of weights and measures of the Pharmacopœia be continued undisturbed, but be restricted to prescription uses alone; and that the French table of weights and measures, and also a compound table showing the equivalent values of the two tables, be added to this department of the Pharmacopœia. This is for the purpose of affording an authoritative reference for the comparative value of the French denominations, and to familiarize physicians and pharmacutists with the French system and its values, in view of its ultimate adoption. Secondly, to abandon the use of absolute and arbitrary weights altogether in the formulas and processes of the Pharmacopœia, and to substitute the term parts, to mean parts by any weight whatever. The primary object of all processes for compounding medicinal preparations is to preserve an invariable ratio among the ingredients and elements of the mixture; and as arbitrary weights are used chiefly to express these ratios, they become accurate and useful only in proportion as they agree among themselves. Then as the present weights do not agree among themselves, whilst the term parts is invariable, this change must

accomplish the object in view, and that without adding anything to the existing confusion among arbitrary weights;—without making any radical change whereby new values to old terms have to be learned;—without revolutionizing the prescription usages or practice where immediate change is not imperatively needed;—without interfering with doses or effects in any way;—without any risk of conflict with law or established usages;—and without involving the least necessity for new weights or appliances of any kind, since any possible system of weights is equally applicable. Two or three advantages of this method are alluded to and discussed without hiding their true force and value, and the conclusion is then arrived at that this is the most simple and easy change that the writer can suggest; but this judgment is advanced as that of a single individual only, and without the least desire to bias or control any one, beyond the legitimate influence of the arguments, and the truth. The paper closed with the request that as far as the proposed substitute is concerned the subject may be left entirely open to the unbiased action of the Committee of Revision, and that the Academy agree unconditionally to abide by the result of the decision of that committee, no matter what that decision may be.

In the discussion which followed the paper there appeared to be a unanimous sentiment in favor of the proposed substitute, and the second resolution, on being put to vote, received but one affirmative voice, whilst the negative votes were very general. The judgment of the Academy is very decidedly opposed to the adoption of the British change, and decidedly favorable to the proposed substitute.

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## Bibliographical Notices and Reviews.

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*The Principles and Practice of Modern Surgery.* By ROBERT DRUITT, Licentiate of the Royal College of Physicians, London, Fellow of the Royal Medical and Chirurgical Society of the Medical Society, London, etc., etc. A new and revised American from the English (enlarged and improved) London edition, with four hundred and thirty-two illustrations. Philadelphia: Blanchard & Lea, 1860. pp. 695.

This work, which has been a great favorite with medical students and also with physicians on this side of the Atlantic, has been very carefully revised by the author. He tells us that he has endeavored throughout to replace old and doubtful by new and more certain materials, and the additions have been so blended and



incorporated in this edition that its bulk has only been increased some thirty pages over the former one.

The chapter on Inflammation in the present edition is entirely new. Pyæmia and Phlegmatia Dolens are removed from the chapter on the veins, and are treated of in their natural alliance with Erysipelas and Diffused Inflammation. The use of caustic in the treatment of Cancer has been considered very carefully. The chapter on Gun-shot wounds has been entirely re-written, and very much enlarged, from new materials placed at the author's disposal by Mr. George Lawson. The treatment of Anchylosis by forcible extension, and of Syphilis by Fumigation; the recent improvements in Ovariectomy and in Vesico-Vaginal Fistula; the radical cure of Hernia; the use of Chloroform, and the deadly results occasionally of its administration the Excision of the knee-joint—have received due notice.

The edition before us contains a few notes by an American Surgeon, which are included in brackets. The notes of the former editors, Dr. Flint and Dr. Sargent have been included in the text.

The reader will find the former designation of the work—"The Surgeon's Vade Mecum"—no longer applicable. The title—"Principles and Practice of Surgery"—is now better—much more appropriate.

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*The Pocket Anatomist: Being a complete description of the Anatomy of the Human Body. For the use of Students. By M. W. HILLES, formerly Lecturer on Anatomy and Physiology at the Westminster Hospital School of Medicine. Philadelphia: Lindsay & Blackiston, 1860. 12mo.*

The author has endeavored to produce, what we will venture to say he has succeeded in producing, a little book, which will be acceptable to the student preparing for his examination, and wishing a compend of his anatomical studies convenient for consultation, and sufficiently explicit to refreshen his memory of the more elaborate treatises.

While attending a course of lectures, for instance, and pressed for time to read up in the more complete works on Anatomy, a book like the one before us will be of peculiar advantage. The descriptions are brief, terse and clear, and the *mechanical* part of the book neatly executed.

B.

*Clinical Lectures on the Principles and Practice of Medicine.* By JNO. HUGHES BENNET, M.D., F.R.S.E., Professor of the Institutes of Medicine, and Senior Professor of Clinical Medicine in the University of Edinburgh, etc., etc. From the last Edinburgh Edition, with five hundred Illustrations on Wood. New York: Samuel S. & William Wood, 1860. pp. 952. 8vo.

The profession are under obligation to the house of S. S & Wm. Wood, N. Y., for the appearance, in a very neat dress, of the work before us.

Our readers are acquainted with the doctrines of the author on inflammation (pathology and treatment), and as we have expressed not long since our views on kindred subjects, we shall not now indulge in anything like a criticism. Until the author is able to define inflammation, it is simply nonsense for him to attempt to base any kind of treatment on the nature of the process. Tell us what it is—*what it is not*—and then we will hear talk on the treatment. In the mean time, the empirical method, in vogue since Hippocrates, will be the method of sensible men all over the world.

The author's peculiar view on the subject to which we have just alluded aside, the volume before us is one of merit. The style is decidedly Anglo-Saxon, and the arrangement of materials, philosophical. The work contains, perhaps, the greatest array of resources for diagnosis of any treatise of the kind in the English language. Besides the usual modes of investigating disease, Microscopy and Chemistry are not only invoked, but their application fully explained. It is unnecessary to suggest that these new modes, so available, imply upon the part of the physician acquaintance with the microscope and chemistry. Take the following from the work on the

#### USE OF THE MICROSCOPE.

A knowledge of the ultimate structure of the human body, in its healthy and diseased conditions, is now so advanced as to necessitate the introduction of the microscope among the ordinary instruments of the medical practitioner. But you must not suppose that an additional method of gaining information implies abandonment of those, the utility of which has stood the test of experience. Men must learn the every-day use of their senses; must know how to feel, hear, and see, in the same manner as they did before instruments were invented. We don't see the stars less clearly with our naked sight, because the telescope is necessary for an astronomer. Neither should a physician observe the symptoms of a disease less accurately because he examines the chest with a stethoscope, or a surgeon be less dexterous with the knife, because it is only by means of the microscope he can determine with exactitude the nature of a tumor. But it is unnecessary to enter into a lengthened argument to prove that the science and art of medicine are greatly indebted, in modern times, to the invention and proper

application of ingenious instruments. The following examples will serve to convince you that the microscope is one of these:—

EXAMPLE 1.—Some years ago I was summoned to see a Dispensary patient laboring under bronchitis, who was spitting florid blood. On examining the sputum with a microscope, I found that the colored blood corpuscles were those of a bird. On my telling her she had mixed a bird's blood with the expectoration, her astonishment was unbounded, and she confessed that she had done so for the purpose of imposition.

EXAMPLE 2.—A gentleman, for some years, had labored under a variety of anomalous symptoms, referable to the head and digestive systems, under which he had become greatly reduced. He had consulted many practitioners, and visited innumerable watering places, in a vain search after health. On examining the urine with a microscope, I found it crowded with spermatozoa. He evidently labored under spermatorrhœa, a disease which had never been suspected, but which was readily cured on the employment of an appropriate treatment.

EXAMPLE 3.—A boy was brought to me with an eruption on the scalp, which was of so indefinite a character that its nature could not be determined. He had lately been elected to occupy a vacancy in one of our charitable educational establishments, and the question to decide was, whether the disease was or was not contagious. On examining the scab with a microscope, I readily discovered the *Achorion Schoenleini*, or fungus constituting true favus; and as this has been experimentally proved to be inoculable, I had no hesitation in preventing his admission to the school.

EXAMPLE 4.—A child was supposed to be effected with worms, because it passed in abundance yellowish shreds, which, to the naked eye, closely resembled ascarides. All kinds of vermifuge remedies had been tried in vain. On examining the shreds with a microscope, I found them to consist of the undigested spiral vessels of plants; and they ceased to appear when the vegetable broth used as food was abandoned.

EXAMPLE 5.—I was called to see an infant a month old, which was in a state of considerable emaciation, with constant diarrhœa. The mother, however, maintained that her milk was abundant, and that it was taken in sufficient quantity. On being examined with a microscope, it was found to contain numerous compound granular bodies, and comparatively few milk globules. In short, it presented, in an exaggerated degree, all the characters of colostrum, and this thirty days after delivery. It was evident, then, that the *quality* of the milk was in fault, an opinion which was confirmed by the recovery of the infant, when a healthy nurse was procured.

EXAMPLE 6.—An individual was supposed to be laboring under dysentery, from the frequent passage of yellowish pulpy masses in the stools, accompanied with tormina and other symptoms. On examining these masses with the microscope, I found them to consist of undigested potato skins. On inquiry, it was ascertained that this person had eaten the skins with the potatoes. On causing these to be removed before dinner, the alarming appearance ceased, and the other symptoms also disappeared.

EXAMPLE 7.—An elderly lady conceived herself to be affected with insects commonly forming in the skin, which produced incessant itching and tingling. All the hair was removed, and every kind of application, including mercurial preparations, was tried without effect. On rubbing the surface, she always saw minute white rolls and black specks, which she regarded as insects in different stages of development. The torment and anxiety this caused her for many months it is scarcely possible to conceive. At length she labored under the idea that she was communicating the disease to her husband and daughter, when, at the request of her medical attendant in the west of Scotland, she came to Edinburgh, in order that I might investigate and treat it. I had the pleasure of shewing this lady, under the microscope, that the white bodies were minute rolls of epidermis or of the cotton cloth with which she rubbed the skin, and that the black specks were portions of dust or soot. Her hallucination being in this way dissipated, she returned home perfectly well.

EXAMPLE 8.—A child had been suffering for four years from copious and fetid discharge from the nostrils, accompanied with great pain. At the end of that time, a dark brown and indurated mass was discharged, about an inch long, and a quarter of an inch broad, closely resembling a sequestrum of bone. This



maes I was requested to examine microscopically by Dr. Littlejohn, under whose care the patient was, and from its structure I readily determined that it consisted of some fir wood. When this was known, the parents remembered that, about the time the disease commenced, alterations were made in the house, and that the children used to play with the wood shavings. There could be little doubt that a piece of shaving had been thrust up the nose, and been the cause of all the symptoms.

Examples of this kind could be readily multiplied. No doubt mistakes will be made with this instrument in the hands of inexperienced persons, in the same manner as the use of the stethoscope, or of a scalpel, may lead to a false conclusion, or to an accident. But this, so far from being an argument opposed to their employment, only proves the necessity of becoming more skilful in their use. Certainly there is no instrument which requires more expert management in itself, or more caution in drawing conclusions from its employment, than the microscope.

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*A Treatise on Fever: Its Causes, Phenomena and Treatment, with an Appendix containing Views on some Female Diseases, some Diseases of Children, etc.* By REZEN THOMPSON, M.D., Nashville, Tenn. 1860.

The time for a thorough review of this indigenous work on a very important class of diseases we have not at our command just now. The author is a thinker, and more, he thinks for himself. While his fellow-townsmen, Paul F. Eve, has to rummage all creation, in order to get up a book on "Strange Cases of Surgery," our author possesses mostly within himself the material for one on Fever.

All fevers of a malarial or contagious character the author thinks are caused by *animalcules* which enter the circulation through the lungs, and finally arriving at the nervous centres, produce the effect of narcotic poison.

In these microscopic times, will not the author take his views entirely out of the domain of theory? Will he not send around to his friends a few "*slides*," after a while, giving us a glimpse of the mischievous little enemies that cause us so much trouble and suffering. This, we have a kind of inspiration, if his days are spared, he will do. After this, how could opponents hold up their heads?

The remedy for these fevers has been found: it is *oil of sassafras*. It has been tried on insects and on infusoria, killing both with equal facility. Of course, it will kill the infusoria that swim about in the blood, quartering themselves, as opportunities present, on the weak points, and following a regular cut-throat pursuit for a livelihood. What consciences must they have!

By observing the caption, it will be noticed that a portion of the volume is devoted to the consideration of "FEMALE Diseases." We

are sorry our time is just now so limited; we should like to look into these *female* diseases.

In conclusion, we should do injustice to our feelings not to acknowledge very frankly, that Dr. Thompson's example for industry is worthy of praise, and, although the mental hebitude of the age may be such as to keep his work on Fever a little below the fashionable ones of the day, still his day may be nearer than some suppose.

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*Clinical Lectures on Certain Acute Diseases.* By ROBERT BENTLEY TODD, M.D., F.R.S., Author of Lectures on Diseases of Urinary Organs, etc., etc. Philadelphia: Blanchard & Lea. 1860.

As in the previous number of the Journal we have dwelt at some length on doctrines, of which this work presents an example, we do not see the necessity, at present, of a further examination of them. The author sums up his conclusions of the volume in the following propositions:—

"1. That the notion so long prevalent in the schools, that acute diseases can be prevented or cured by means which depress and reduce vital and nervous power, is fallacious.

"2. That acute disease is not curable by any form of drug or any known remedial agent, excepting when it is capable of acting as an antidote, or of neutralizing a poison, on the presence of which in the system the disease may depend (*materies morbi*).

"3. Disease is cured by natural processes, to promote which in their full vigor vital power must be upheld. Remedies which, in the shape of drugs, exercise a special physiological influence on the system, or in whatever form, are useful only so far as they may excite, assist or promote these natural curative processes.

"4. That it should be the aim of the physician to inquire minutely into the intimate nature of these curative processes (physiological), to discover the best means of assisting them, to search for antidotes for morbid poisons, and to ascertain the best and most convenient means of upholding vital power."

The author in the Preface thinks we may dispense with the distinctions of disease into *asthenic* and *sthenic*, and that all diseases may be regarded, for all practical purposes, as *asthenic*, and treated by means designed to uphold vital power,—sustaining, strengthening medicines.

We notice a disposition in the author to review and criticise to some extent the doctrines of pathology. Too much importance he thinks has heretofore been awarded to morbid anatomy, and too little to clinical history and the facts and phenomena of disease during life. The author observes:—

“The following problem lies at the root of the pathology of acute disease, and it has never yet received an adequate explanation, and is uniformly ignored by the zealous advocates of the so-called anti-phlogistic method.

“A man has a patch of pneumonia in the base of his left lung, brought on, he conjectures, by some exposure to cold. Why is it in his left lung? why at the base rather than the apex? how is it limited to a certain patch? In other words, what is the proximate cause of this localized derangement of nutrition?”

We presume we have quoted enough for the reader to see of what the volume is composed, and also to see the relation sustained to the doctrines of Forbes, Bennet, Bigelow, Holmes, etc. It will be a good while before the profession will be convinced that there is no difference between *acute* and *chronic* diseases, and that they are amenable to the same kind of treatment. Nor will they be less slow, we presume, to dwarf the department of morbid anatomy.

The questions, why a pneumonia should prefer the left lung, and the base rather than the apex, no one can answer of course; but should our ignorance here be summoned as an evidence that there is nothing in morbid anatomy? and that our modes of investigating the proximate causes of disease are radically defective? Why don't the sun rise in the West? Now, because this question can't be answered, does it follow that our methods of investigating astronomy are all wrong?

The author before us was a very industrious man, and when he confined himself to questions and researches to which by capacity he was adapted, his services were valuable and fully appreciated. Out, however, in the fields of speculation, he has exhibited himself to but little advantage. All the questions he has raised are old ones, varnished over a little, “jist.” Forbes is the *tweedledum*, and our author is the *tweedledee*.



## Editorial and Miscellaneous.

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*Prosecutions for Mal-Practice.*

Sensible and intelligent physicians are supposed to appreciate the serious character and bearings of prosecutions for mal-practice. Primarily, a prosecution is a grave matter to him who is prosecuted. Even the idea of a formal imputation of derilection and incompetency carries with it a very pungent sting. The reputation of the physician or surgeon is his stock in trade. He cherishes it as beyond all price. He can bear the loss of property; he may be meagerly compensated for arduous labors and responsibilities; he can cheerfully live in obscurity, and suffer the inconveniencies, or even the pinchings of poverty; amidst all these he may be permitted to enjoy the consciousness of possessing such a reasonable degree of skill and devotion to the claims of the suffering as make him a useful member of society. But, make a formal and public attack upon this consciousness, even in a single instance; let it be extensively advertised that even an interested party, his patient, not only distrusts his skill, but has undertaken the contract of demonstrating the want of it to the satisfaction of twelve disinterested members of the community, and that there must, in the nature of things, be a public announcement of the result; do this, we say, and it is not difficult to see that the event, from its very inception, casts a long shadow upon the future, pregnant with fears, uncertainties, apprehensions, fearful forebodings. It is not time, nor business, nor money that is at stake—it is *reputation—it is everything*. Accordingly, a prosecution is very naturally, if not even properly regarded, at least till the sequel is known and read of all men, as the most serious matter that can happen to one's professional career. A successful suit, furthermore, is attended with more or less of hazard to the profession at large. The public knowledge of a verdict for the prosecution will beget a brood of new cases, in which, quite as likely as otherwise, the most skillful and diligent of the profession will be the victims. Some three years since, an item floated largely through the newspapers, to the effect that a jury, in the State of Illinois, had found a verdict for \$50,000 against a wealthy quack, for mal-practice. In making up

their verdict, they made an estimate of what he was worth, and divided it equally between him and his patient. We have not a particle of doubt but many an unprincipled person, reading that item, dreamed of a new and easy road to wealth, in certain contingencies. In fact, demonstrations were made within the sphere of our own personal observation, that we had every reason to suppose had their *fons et origo* in that paragraph.

When it is borne in mind that, with the public, doctors are doctors—that they are all put up in the same parcel, and designated by the same label—it is easy to perceive that even the misfortune of the veryest pretender, is, to a very considerable extent, a calamity to the skillful and accomplished. Such being the facts, it is obvious that every aspect of the subject should receive the careful and candid attention of the profession.

We are in possession of facts that do not allow us to doubt but that, from first to last, there have been in Ohio more than two hundred of these prosecutions. Why is it that they are so frequent? In undertaking to answer that question, it should be premised, in the outset, that a large majority of these suits originate from alleged mal-practice in the treatment of fractures and dislocations. In the popular mind, this department of practice is merely mechanical. Most persons have some knowledge of the precision and certainty which ordinarily attend mechanical operations. When the farmer breaks a spoke of his wagon, his wagon-maker replaces it with one as good as the original; when a single cog is broken in a single wheel of a complicated machine, the exact site, extent and character of the injury are at once discovered, and the materials, mode of construction, etc., are such that a workman of ordinary skill can at once remedy the difficulty, if it is remediable, or decide the question if it is not, and the circumstances and considerations bearing upon the determination of the question are such that there can scarcely be room for difference of opinion as to the general course of procedure.

The popular mind, perceiving all this in ordinary mechanics, and assuming that the duties of the surgeon are of a kindred character, is disposed to hold surgeons to accountability for failing to attain their ideal of mechanical results. Their reasoning is based upon a false assumption. The human body is not a mere machine. It is a complicate and delicate organism. Its injuries do not necessarily lie open to the sight. The broken or dislocated bone, quite as likely as otherwise, is deeply imbedded in soft parts, which

remove them from the operation of our senses. We can't take the material we are dealing with to pieces, as the workman does the watch. The character of the injury, accordingly, can only be made out by facts and considerations which in their details bear only upon the single case in hand; and these are frequently so occult, and consequently so difficult of appreciation, that, to start with, no earthly wisdom is competent to make out the precise character of the injury. The uncertainty that characterizes the diagnosis, attaches to the treatment, and of course to the result.

In addition to all this, although, in the treatment of a fracture, for instance, mechanical appliances are used, yet it is to be borne in mind that the surgeon is only one party to such use; that the attendants, but especially the patient, is another; that though the application of mechanical support may be ever so skillful, yet without co-operation by the party of the second part, it will necessarily fail, to a greater or less extent, in the purpose for which it is used.

It is possible, too, that not only the public, but at least individuals in the profession, have not arisen to a full conception of all that we undertake to do, in the use of our dressings. Take the case of a powerful man, with a simple but very oblique fracture of the femur. Grasping the lower part of such a limb, a man of full strength will find all his resources brought into requisition in undertaking to pull it down to its full length. He now puts on say the long splint, and the arrangement finally amounts to about this: that an amount of extension, equal to the strength of a powerful man, must be borne by some point, perhaps the instep, the entire area of such part, thus supporting such extension, not being equal to more than from five to ten square inches, while a more delicate but otherwise more favorably situated surface, a portion of the perineum, is called upon to sustain the counter-extension, which, of course, must be equal to the extension. The tonic contractility of the muscles, that makes a powerful effort necessary in bringing the limb to its full length, belongs inherently to them, and is permanent. Hence, if shortening is prevented, this pressure must be borne by these surfaces, with gradually diminishing intensity, however, for from 40 to 50 days. Every man who has had a personal experience in bearing the pressure of a strong truss, equal to a very few pounds, on two or three square inches, favorably situated for bearing it, will want to be excused from having his obliquely fractured femur kept full length, for three hours even,



by any such means. The tension of dressings required to maintain the full length of the limb, will prove wholly intolerable. It is impossible to give full play to our mechanical appliances. If we should keep our splints applied with a degree of tension such as is indispensably necessary to our maintaining the full length of the limb, and consequently to our securing a perfect result, we would probably cause such local and constitutional disaster as would result in the death of the patient within the period of cure. Hence, considering the treatment of such a case in a merely mechanical point of view, we see that it is impossible for us to secure the co-operation of the patient, and that we are obliged to compromise the matter, and endeavor to reconcile our own minds, and that of our patient, to the attainment of imperfect results.

Another source of these prosecutions, in the class of cases in which they are most liable to occur, has hitherto been found in the absence of everything like a tangible and reliable standard of practical results. Till very recently but very little was to be found, in even our best text-books, that was calculated to lead either the student or the practitioner to expect anything but perfect limbs from proper treatment. And, hence, although the personal observations and experience of individuals is supposed to have been sufficient to give them sufficiently humble estimates of their own success; yet the circumstances have been such as to tend to lead the humiliated practitioner to suspect that he was less skillful than others, and to concede imperfections, as belonging to himself, which attached rather to surgery than to the surgeon. In this state of mind, it is easy to conceive that threats of prosecution would have great influence. Regarding the practice as imperfect, the practitioner would very naturally dread being held to a strict accountability for it. This misgiving in the mind of practitioners has been the prolific source of those compromises, which, in their turn, have been the prolific source of new threats, and new difficulties in other cases. Here, too, is found the secret of that success which formerly attended these prosecutions. The professional mind erred in conceding to surgery a degree of perfection which it did not possess.

In reference to all this, however, a new epoch has dawned upon the profession. The results following the treatment of fracture and dislocation have been carefully studied. We now have a tangible and reliable standard of them. It is thus abundantly de-

monstrated that, in whatever hands, under whatever plan of treatment, and despite whatever degree of skill, *imperfection* is the rule, and that *perfection* is a rare exception: that there are imperfections in *surgery*, as well as in *surgeons*, and that while members of the profession have no right to complain that they are held responsible for an ordinary degree of skill and diligence in the discharge of the duties devolving upon the latter, they are quite disposed to excuse themselves from assuming the long bill of disasters that necessarily, and in spite of their best endeavors, whether in preparation or practice, grow out of, and are inseparable from the former.

Still another source of these annoyances is to be found in the legal profession. The knowledge which the great body of the legal profession have of surgical topics is, necessarily, exceedingly slight. They imbibe the popular errors as to what should be required of the surgeon. Seeing an imperfect result, they are very apt to attribute it at once to the want of skill on the part of the surgeon. While thus, in connection with other circumstances, the most honorable of the profession, from the purest motives, and from a sense of professional duty, may be led to connect themselves with these cases, there is in the legal, as in other professions, a greater or less proportion of unscrupulous men, who would not for a moment hesitate to instigate a prosecution, with very little regard to anything but the *fee* that is to accrue to themselves. It has seemed to us, withal, that even the better class of lawyers were quite too inconsiderate in reference to taking these cases. Certainly, if they reflect upon the circumstances of some of them, as shown by the sequel, they cannot derive that kind of gratification from the exercise that is supposed to be very precious to a thoroughly honorable mind. Take a case: A worthy, honest, devoted and competent surgeon, diligently and conscientiously treats a worthless member of the community for a fractured limb. In managing the case he is obliged to contend with the ignorance, poverty, and obstinacy of his patient as well as he can. In spite of all this he attains a fair result. But the character of the case is such that, in spite of his anxious and earnest endeavors, deformity more or less follows, perhaps also impaired usefulness. As a substitute for a compensation, which, under no circumstances did he intend to render, instead of evincing an ordinary degree of gratitude to the surgeon for his skillful services, by which limb and life are pre-

served, he embraces every opportunity to disparage him and them by making exhibition of his deformity, and by every other available means. A very large proportion of the legal profession, perhaps nine-tenths of those who are not swayed by the expectation of a fee for the defense, would, partly, perhaps, from the habit of taking cases with no special regard to their merit, mainly from the consideration that glitters in the distance, without hesitation engage themselves to this man, to prosecute this surgeon in these circumstances. And what is the lawyer's part of the engagement? It is not to assist an ingrate in the act of *robbing his benefactor*. By no means. The procedure is not usually known by that name. He simply engages himself, in the sacred name and forms of justice, to make a formal attack upon that which, to the surgeon and those who cluster about, love, and are dependent upon him, is far more precious than money—to *attack the reputation* of that surgeon, to pierce it through its vitals if need be—as a means of giving coloring of regularity, legality, and respectability to an act which, to be sure, the unsophisticated would very naturally call the act of robbing a benefactor, but which is more commonly known “as securing the claims of justice”—and a *fee*.

This, reader, is no fancy sketch. The details of at least a half dozen cases that have transpired, within our personal observation, have been almost detailed exemplifications.

But sometimes, we say it in sorrow, the influences which project unjust prosecutions center around, or originate in our own profession. Professional jealousy or envy is sometimes the starting point. We have seen a few, very few, such cases. Woe to him who has the responsibility. The sequel will, with unerring certainty, cover him with shame and disgrace.

While the cases in which professional hatred incites to active complicity are rare, it is believed that a want of cautiousness and consideration, criminal because of the serious effects liable to grow out of it, is very much more common. The high-minded and better class of lawyers rarely take these cases except on the basis of the known views of some one who is supposed to be a responsible surgeon. Here, then, is the pivotal point in the case. Greater responsibility is involved in giving an opinion, at this stage, than on the witness-stand under the solemnities of an oath. The surgeon should never, let the result of the practice be ever so unfortunate, give an opinion favoring a prosecution, in the absence of the



attendant. He alone is competent to describe that practice and the reasons for it. Bad results, while they presume it, do not prove bad practice. The most skillful men, in spite of the utmost care, under the most promising circumstances, and with every extraneous co-operation, meet with disappointments and bad results. For this they are in no wise responsible. Mal-practice, in the purview of the law, is the absence of reasonable or ordinary skill and diligence. When these are brought to bear, let the result be ever so serious to the patient, the legal responsibility of the practitioner ends.

Such being our views, the reader will have some idea of the astonishment with which we read the following statement from a distinguished friend and professional brother. It was made in the absence of the attending surgeon, for the patient, and as a basis for action with reference to a prosecution. It is, accordingly, essentially a public document.

*Statement of Prof. ———:*

Bad job. Clear case of mal-practice. If it could not have been reduced, should have been amputated. Fracture-box, if well applied, is sometimes a good thing. If he left the case in the condition you are in to-day, it is a clear case of mal-practice as I ever saw. If this dislocation was ever reduced, it was the business of the surgeon to see him often, and see that it was kept to its place; and a competent surgeon would have known at once that it was displaced, and could and should have been reduced again. As long as there was danger of a renewed displacement, it would be practicable to reduce it. It is the surgeon's duty to see the case frequently, as long as it is susceptible of displacement.

If the fracture-box was well applied, and the limb supported in its place by the materials generally used with the fracture-box, no other support would have been required.

There is authority for the use of the fracture-box in such cases, but in my opinion it is not a safe mechanical appliance. I would have preferred splints, or starch bandage, or plaster-of-paris bandage.

Here we have, from a highly respectable authority, a practice characterized as a "bad job," "clear case of mal-practice," "clear case of mal-practice as I ever saw," in the absence of the only man on earth who was competent to tell what that practice was, with

the reasons for it. Furthermore, the fracture-box, perhaps the most common of American appliances for the treatment of fractures, is spoken of as if it was hardly admissable—"in my opinion, it is not a safe mechanical appliance." "The competent surgeon would have known at once that it was displaced," etc., without regard to swelling, suppuration, erysipelas: and, finally, the gentleman "would have preferred splints, or starch bandage (for a compound dislocation of the ankle-joint), or plaster-of-paris bandage."

This extraordinary statement, as full of presumption as of errors, is in the hands of parties engaged in the prosecution of a respectable physician, and was given by its author, it is claimed, as the basis of the action.

H.

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DIPHTHERIA.—This disease continues to prevail in our City and in the vicinity. While the mild type continues to be the most common, grave cases are more frequent than during summer or autumn. The complications and sequelæ are also more common.

We do not feel like advancing any opinions on this epidemic at present. If it is not a new disease, it has been seen dimly by ancient authors. We therefore feel that any attempt to describe it fully just now will prove a failure. Any one can see its resemblances to certain affections, long described and well understood, but that it is any of these is a matter that can only be determined by a comparison of notes after its complete demonstration.

We have been written to for our views on *treatment*. We have only to say in reply, that we do not think our experience in the treatment of the disease worth any thing as a guide to others. There is a great variety of circumstances connected with each individual case that require to be appreciated; or in other words, each case has its own laws of treatment, and it is only by keeping this fact before the mind prominently that the physician can do the most for his patient. The journals abound in suggestions, from those who have had some experience, of plans of treatment, the antiphlogistic, the stimulating, the tonic, the detergent. Then again we hear much said, *pro* and *con*, with regard to *local* remedies. We are at a loss to see the propriety of any plan of treatment unless we know something of the case. *It is the case that makes the remedy.*

*Hunter Memorial.*

By a vote of the American Medical Association, passed at its late meeting at New Haven, a committee, of one from each State represented, were chosen to fulfill the object of the following resolution:—

“*Resolved*, That it be recommended to the different States to collect subscriptions of not more than *one dollar* each, from every regularly educated physician, to aid in the erection of a monument, about to be placed in Westminster Abbey, to the memory of John Hunter. All moneys collected to be forwarded to the chairman of the committee hereby appointed.”

The subscriber was chosen for the State of Ohio, and, to give the subject general publicity, has requested the editors of the different medical journals in this State to publish this notice. Each regularly educated physician of this State, who admires the towering genius and indefatigable labors of Mr. Hunter, is respectfully solicited to forward, by mail, to me *one dollar*, with the name and residence legibly written with good ink, before the first of March, 1861. The autograph names of all donors will be arranged in a suitable volume, to be deposited in the Library of the Hunterian Museum in London.

In order to carry out more fully the preceding resolution, the editors of medical journals, secretaries of county or local medical societies, and other medical gentlemen in various parts of the State who have been furnished with circulars, are authorized to receive the donation of *one dollar* from each subscriber, with autograph names, and transmit the same to me before the first of March, 1861.

It is to be hoped that the profession will maintain, by a general subscription to this worthy object, the elevated position the State of Ohio occupies in our confederacy.

A correct list of donors will be found on the Secretary's table at the next annual meeting of the State Medical Society of Ohio.

JOHN W. RUSSELL.

MOUNT VERNON, O., Nov. 30th, 1860.

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REDUCTION OF A DISLOCATION AT THE HIP BY MANIPULATION AFTER PULLEYS HAD FAILED.—The practice of reducing dislocations of the femur at the hip by manipulation, instead of pulleys, is now generally adopted in our hospitals. Not a few cases, in



which this method has been found most easy and effectual, have occurred at the London Hospital during the last year or two. In one, the man had sustained a fracture of his leg on the same side, as well as the dislocation at the hip, and it was, therefore, especially desirable to avoid having recourse to violent traction. The leg having been first put up in splints, the thigh was bent and tilted outwards in the usual manner, and reduction was at once effected. A case occurred the other day at Guy's Hospital, which demonstrated the superiority of this method, inasmuch as pulleys had previously been tried without success. It also showed that the knowledge that this is the easiest method, is not as yet so widely diffused in the profession as it is desirable that it should be. The subject of the dislocation was a man, aged 38. He had fallen in wrestling, and his left femur had been displaced upon the dorsum ilii. Extension by means of pulleys had been tried without success before his admission into the hospital. Mr. Bryant, under whose care the man came, had him placed under the influence of chloroform, and at once succeeded by the manipulation method in reducing the dislocation. Very little force was found requisite.—*Med. Times and Gaz.*, Nov. 10, 1860.

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**CHRONIC MAMMARY ABSCESS.—SUCCESSFUL TREATMENT BY STRAPPING, ETC.**—Chronic mammary abscess, or, as it is sometimes called, encysted abscess of the breast, is a disease of considerable interest, inasmuch as it is in itself a tedious and often painful affection, and, closely simulating other more serious diseases of the same part, has many times been mistaken for tumor of the breast. A good illustrative case is now under the care of Mr. Coulson, in St. Mary's Hospital:—

S. T——, aged twenty, single, a female servant, the history of whose affection dates back two years and a half. As is usually the case with chronic abscess at this site, its origin was unconnected with any acute lacteal inflammation, but arose without any distinct cause; it was attributed by the patient to cold. The first attack was aborted by prompt treatment. The nipple has remained retracted, and the breast subject to occasional attacks of painful swelling. A month ago, it had been unusually inflamed and painful, and presented typical features of the disorder.

The classical authority in surgery says that “the cure of these

encysted abscesses of the breast may be most conveniently effected by making a puncture into them, and then passing a seton across them in a perpendicular direction; the inflammation thus excited in the tumor will speedily lead to its being softened down, and eventually disappearing." The treatment which Mr. Coulson adopted in this case, and which he commonly employs with success, was of a milder character. Scott's ointment was applied to the breast on lint; strips of plaster, of an inch and a half in breadth, were then placed tightly around this dressing, and the whole carefully bandaged. Four days subsequently, Mr. Coulson caused the dressing to be removed and renewed. The improvement in the case was very marked, and the disease is fast progressing to a cure. —*Lancet*, Nov. 24, 1860.

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RUSSIAN CIVIL HOSPITALS IN 1858.—According to the report for 1858, just issued by the Russian Government, the entire number of persons received into these in 1858 amounted to 293,153, of which number 246,747 recovered, 24,583 died, and 21,823 remained under treatment; so that the mortality was about 83·85 per 1000. Inflammatory, rheumatic, gastric, and especially catarrhal fever occupied the first rank. No part of the Empire escaped the influenza, but nowhere did it exhibit marked malignity. The same observation may be made concerning ague, which, however, assumed a bad form in the St. Petersburg district. In several places Fowler's solution was found to be of efficacy, while the preparations of bark were of little service. Of typhus and typhoid there were 20,062 cases, with 15,556 recoveries and 3415 deaths. Cholera prevailed epidemically in some places, not quite half those attacked dying. Of dysentery there were 138·90 deaths to 1000 recoveries; and of acute exanthemata there were 71·14 deaths to 1000 recoveries. Croup prevailed epidemically in various places, 533 deaths occurring from among 1809 cases. There were 9648 patients suffering from tuberculosis with 4430 deaths, from scorbutus 3437 with 252 deaths, 28,952 from syphilis with 237 deaths. Of 115 persons bitten by animals with rabies 23 became affected with hydrophobia, all dying. The bite of the wolf has been found to be more dangerous than that of a dog. There were 2 cases of acute glanders in man. There were 933 major operations performed during the year, the patients recovering in 838 and dying in 95. Of these

248 were amputations of the large limbs, with 205 recoveries and 43 deaths; 24 disarticulations, with 3 deaths; 14 resections, 78 lithotomy operations, 90 extirpations of cancer, 49 cataract operations, 28 for phymosis and paraphymosis, 3 tenotomy operations, 9 herniotomies and 2 tracheotomies.—*Med. Times and Gaz.*, Dec. 1, 1860, from *Deutsche Klinik*, No. 40.

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SPONTANEOUS EXPLOSION OF GLASS. BY M. DONOVAN, ESQ., HON. MEM. PHILADELPHIA COLLEGE OF PHARMACY.—Some phenomena have lately occurred which appear to merit attention, as they might have been attended with dangerous consequences. Dr. Hoffman states that a large bottle of chloride of lime, the glass stopper of which could not by any means be taken out, had lain for years undisturbed on a shelf in his laboratory, when, without any obvious cause, it exploded, breaking the bottle into small fragments, and dispersing them, along with the chloride, with violence to a distance in all directions. This explosion Dr. Hoffman attributed to a spontaneous decomposition of the chloride of lime, a substance not hitherto known to be capable of producing such an effect.

Some days since an explosion took place in the shop of a chemist in Colliergate, York. One of the large show-bottles which stood in the window suddenly burst with a report described as resembling a cannon; the plate-glass window was shattered, and the glass vessels were blown to atoms.

Three years ago the following occurred to myself. I had procured from London a four-ounce bottle of what professed to be iodide of sulphur; but as it did not in any respect resemble that substance, I set it aside without removing the stopper, which stuck fast. In a year after, wishing to convert the bottle to use, I attempted to remove the stopper, but could not. I then tried to effect my object by striking the side of the stopper with a piece of wood, in the manner commonly practiced. I had no sooner given the stopper the first stroke, and a gentle one it was, than an explosion as loud as a small pistol shot took place; the body of the bottle was shivered, some of it almost into dust; the room (a large one) was filled with a cloud of the yellowish powder which the bottle had contained; and three of my fingers were gashed in a manner



which gave me great pain; the cicatrices even to the present hour occasionally sting me.

I succeeded in collecting a sufficiency of this powder for examination. Its color was pale yellow; it was proved not to contain a particle of iodine; it burned, on a hot iron, entirely away, with the characteristic flame of sulphur. I could discover nothing in it but sulphur in the state of hydrate, or what is called *lac sulphuris*, and such I believed it to be.

I have more than once witnessed the spontaneous fracture of a glass vessel into curious zigzags, the parts still holding together. I attributed the occurrence to imperfect annealing, or to whatever the principle is that causes the explosion of Prince Rupert's drops. The explosion of my bottle seems inconsistent with the notion of a radical force acting from within, but agrees well with the supposition of some molecular repulsive agency between the particles of the glass which had been long constrained and overpowered by their cohesion, until the vibration of the stroke given to the stopper determined the balance of power. I am not sure that this explanation has much meaning in it, but I can suggest no other. Whatever may be the cause, it is probable that the explosion of the chemist's show-bottle was of the same kind. Such bottles generally contain merely water colored by metallic salts, or other non-fermentable substances. Perhaps the explosion of Dr. Hoffman's bottle may have occurred in the same manner; and perhaps the three cases may have been explosion of the glass, and not of the contents of the bottle. Be this as it may, we derive the caution to be on our guard when we have to do with bottles, the ground glass stoppers of which have been closely adhering for a length of time, and obstinately resist being removed.

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OBSERVATIONS ON SYPHILIS.—In an essay read before the Rutherford County Medical Society, May 3, 1860, Dr. L. M. Wasson, of Murfreesboro', Tenn., attempted to prove syphilis to be the parent of scrofula (*Nashville Journ. of Med. and Surg.*) But this assertion, although admitted in part by others, is loosely based upon the impaired vitality, prostration, and cachectic condition of the system, induced by syphilis, and resulting in the "lymphatic temperament, which is the temperament of scrofula." The system is thought to become inclined to the scrofulous diathesis, because every

fibre of the economy can not but be affected by "blood vitiated with ingredients so incompatible with every tissue of the body," as the venereal virus. Supposing that to be true, as far as it goes, it does not follow as an undeniable fact, "syphilis does produce, in every particular, the scrofulous diathesis," nor that it is "a most powerful and frequent cause of scrofula."

In order to corroborate the assertion of Dr. Cullerier, that hereditary syphilis is always due to maternal influence, (*Mémoires de la Société de Chirurgie*, tom. iv., p. 230,) Dr. Notta has published a memoir containing a number of observations, which go to show, that the issue will be free from the disease when at the time of conception the mother was free from it, notwithstanding the father may have been affected either at the time or previously, but that syphilitic children will be the result where the mothers have been subjected to the influence of the virus previous to conception, while the father was then suffering or had passed through the disease. In registering these facts, we are not prepared to admit the conclusions drawn from them, preferring to wait for the result of a more ample experience.—*Arch. Gén. de Médec.*

Prof. Sigmund, of Vienna, finds the proto-iodide of mercury only applicable to the papular and pustular forms of syphilis, and even there it is slower in effect than other mercurial preparations. Its reputed peculiarity of not inducing salivation is groundless; even when combined with opium, it gives rise to diarrhœa, and in obstinate forms of the disease it is of little or no use, while in anemia it is positively injurious. It by no means deserves the preference given to it in the treatment of children, and admits only of further trial in some obstinate forms, combined with iodide of potassium, but not in subjects disposed to catarrh of the lungs, stomach or intestines.—*Wien Wochenschr.: Med. Times and Gaz.*

Prof. Hebra has given, in one of the late meetings of the Medical Society of Vienna, his experience since 1858 of the treatment of syphilis by syphilization. Taking the matter from a simple soft chancre, he continues the inoculation as long as pustules are formed, or until all the syphilitic symptoms have entirely disappeared. Patients, upon whom no more pustules are produced, even by repeated inoculations from different chancres, are pronounced "immune." The inoculations were made three times a week, commencing with four punctures in the side or upper arm and then in the thighs. The aggregate number of punctures reached from 7 to

604. The earliest immunity ceased after the nineteenth inoculation, or the forty-second day, with seventy-six punctures; the latest by 219 punctures after 150 days. The patients, with the exception of two, received no medicine, not even a warm bath, but were allowed nutritious food and walking at pleasure. The artificial pustules were covered with a piece of oiled linen: frequently it took from three to six weeks to heal them up. A few patients, in whom inoculation had not been pushed to immunity, were attacked again with syphilis. Out of twenty-four (three with primary chancres, nineteen with secondary syphilis, two with non-syphilitic lupus serpiginosus) fourteen had been dismissed, the rest remaining under treatment. The application of mercurial ointment in two cases did not influence the development and course of the artificial pustules. All patients made perfectly immune are permanently cured. They feel perfectly well during the inoculation, improve in appearance and gain in weight; by and by all syphilitic symptoms disappear. Parallel experiments, however, prove the decided superiority of mercurial treatment.—*Wien Wochenschr.: Oglethorpe Med. and Surg. Journ.*

Against syphilitic chaps and fissures of the toes an ointment containing litharge, white precipitate, and a few drops of laudanum, has been used with marked success in many of the hospitals of Germany. The same ointment is recommended for the serpiginous and phagedenic ulcers which occasionally supervene upon vaccination in children of a scrofulous or syphilitic constitution. The process of cicatrization is practiced by bathing the sores with a decoction of hemlock and marsh-mallows.—*Med.-Chir. Review.*

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TREATMENT OF EPILEPSY.—Dr. Fabre reports seven cases of confirmed and well-marked epilepsy, in which pills of the hydrocyanate of iron have effected cures. He alludes also to numerous cases in which the same substance has been successfully employed by Dr. Roux, of Brignolles, and adduces the testimony of others in support of the advantageous effect of this preparation, which has been employed since 1829 in chorea and other neuroses complicated with chlorosis.—*Revue de Malgaigne; Journ. Mat. Med.*

Dr. G. S. Bailey, a retired physician of Iowa, states in a letter to the editors of the last-named journal, that his only son, after having been treated six years for epilepsy with every remedy that



medical skill could suggest, without success, was finally cured with the hydrocyanate of iron, by Prof. D. L. McGugin, of Keokuk. The formula employed corresponds with the one used by Dr. Treat (*Cincinnati Lancet and Observer*, June, 1860, p. 383): hydrocyanate of iron, one drachm; powder of valerian, two drachms; extract of Indian hemp, one drachm being originally added by McGugin. Make into one hundred and twenty pills. One of them is to be taken three times a day, gradually increased to four.

Dr. Max Maresk, physician of an establishment for the insane at Vienna, submitted some epileptic patients to the influence of atropine. Out of eight cases taken from the female department, three were completely cured, and the condition of the five others notably ameliorated. Ten other patients, four men and six women, were selected from the department of the incurable insane, for the same experiment. Eight of these experienced a marked diminution in the violence and frequency of their epileptic attacks, as well as in the acerbation of their physical trouble. One-fiftieth of a grain of atropine gave rise, in every case, to the phenomena habitually following the administration of this agent; the patients became habituated to them, although they never ceased during the entire treatment. In every case the pulse lost eight or twelve pulsations during the first hour after taking the remedy, but resumed its normal frequency so soon as the other phenomena manifested themselves. The atropine was administered in a solution of one grain in five hundred drops of rectified alcohol; five or ten drops of this constituting a dose, which is administered once daily, in the morning before breakfast. Coffee, tea and chocolate interfere with the action of the atropine. It is continued for sixty or ninety days, and then resumed after an interval of from thirty to forty-five days. It favors and augments menstruation, and but rarely gives rise to constipation, more frequently to diarrhœ, necessitating, when severe, suspension of its administration for some days. *L'Union Med.*; *N. O. Med. and Surg. Journal*.

*Selinum palustre*, in powder, effected a complete cure in the hands of Dr. Th. Herpin, in four cases of idiopathic, and partly of inherited epilepsy. He administered from one to four ounces during the week, divided in twenty-four doses, of which three or four were taken daily. According to Dr. Tagod (*Bouchardt's Annuaire de Therap.*) the root and herb of *peucedanum austriacum* are still more efficacious. He gave two grammes of the powder

three times daily.—*North Amer. Med.-Chir. Rev.*, from *Bull. de Therap.*

Mr. E. Baines reports a case with the powdered water-plantain, *alisma plantago*, four grains twice daily, increased a grain every third day. But the root must be collected at the end of August. This deserves a more extensive trial.—*London Lancet*.

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CONSUMPTION OF TOBACCO IN FRANCE.—The consumption of tobacco in France increases in an immense proportion. In 1815 it was only 53,000,000 lbs., and in 1858, 173,000,000 lbs., having in that time more than tripled. In a period of 47 years, it produced to the Treasury a gross sum of 4,386,794,264 fr., and a net amount of 3,044,079,306 fr. The sale of tobacco, as is known, is a government monopoly, and the gross receipts from it are set down in the budget of the present year at 183,000,000 fr. From that sum, however, must be deducted 15,424,000 fr. for salaries; 12,437,200 fr. for rent, buildings, wages to workmen, repairs, supplies of paper, envelops, salt, and casks; 211,000 fr. for indemnities to departments in which the plant is cultivated; 205,000 fr. for fees to experts; 43,009,000 fr. for purchase of foreign and native tobacco; and 96,933 fr. for extraordinary service; total, 57,501,533 fr.; thus leaving a balance of 125,498,467 fr. in the Treasury. The increase in the price of tobacco just imposed will raise the receipts, it is estimated, to about 220,000,000 fr.—*Lancet*, November 3, 1860.

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EVIL EFFECTS RESULTING FROM THE USE OF THE ÉCRASEUR FOR THE REMOVAL OF HÆMORRHOIDS.—M. Nelaton drew attention some time since, to the occasional occurrence of traumatic stricture of the rectum as a consequence of the use of the écraseur. In a clinical lecture last spring he noticed this drawback to the use of M. Chassaignac's favorite instrument, and said that many of the patients who had been operated on had had reason to regret the exchange of a bearable complaint for a veritable torment. M. Chassaignac, who is not the man to abandon a cause he has once declared a good one, at once set about a modification of his original plan, and now, instead of including the whole mass of the hæmorrhoidal tumor within the loop of his instrument, and removing it as if it were a polypoid growth, he contents himself with the excision

of the crown of the tumor, trusting to the subsequent inflammation and cicatricial contraction to effect the rest of the process of obliteration requisite for the accomplishment of the cure. This new method, however, does not give the patient the benefit of one of the great advantages attached to the use of the *écraseur* under ordinary circumstances—namely, the perfect immunity from hemorrhage, as proved by the occurrence at the Hôpital Laribossière of a death from the above cause after an operation for the extirpation of piles, although, as very justly observes one of the leading journals here, the *Journal of Practical Medicine and Surgery*, it has yet to be proved whether in the statistical reports of such operations, either by *écraseur* or other method, fatal terminations be not occasionally observed also. M. Chassaignac's error has hitherto undoubtedly consisted in too generous an excision of healthy tissue—a proceeding which has been followed by the formation of a large and progressively contracting cicatrix. The alarm has now been pretty widely given in France at least, and operators will for the future be more economical in their dealings with the mucous membrane of the rectum. If M. Chassaignac possess any imitators in England, it will be well for them to take a timely warning.—*Lancet*, Nov. 10, 1860.

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ON THE DISEASES OF PRINTERS.—*By Dr. van Holsbeek.*—Dr van Holsbeek having enumerated the diseases resulting from overwork, from intemperance, want of cleanliness, vicious habits, protracted watching, &c., proceeds to speak of the morbid affections more specially belonging to the printer's art. Fissures of the lips, of varying depths, are of frequent occurrence; at other times tumors are developed on the inner surface of the same parts, which are nothing else than follicles whose excretory ducts are closed. These tumors sometimes inflame, become highly painful, rapidly ulcerate, and assume a cancerous appearance. Such affections of the lip are owing to the habit some compositors have of putting into their mouth the types still moist with the fluid which has served to wash them. Dyspepsia is frequent, as is diarrhœa; the latter is, however, of a transitory and mild nature. Among the most common affections are those of the respiratory passages, of which laryngitis and bronchitis are the principal; pleuritis is rare; pleuro-pneumonia is frequent and severe. These diseases are favored by the curved position which the printers are obliged to maintain during



their work, particularly when they correct on the forms, and still more by the night-work, by gas-light, by the dust and emanations in places often confined and badly ventilated. Nearly twenty-five per cent. of printers die of tuberculosis, either hereditary or acquired. Diseases of the heart prevail among the pressmen; hemorrhoids are rare; varices and varicose ulcers are of frequent occurrence; the compositors who correct on the form frequently suffer from cerebral congestions and hæmorrhage. Among nervous diseases we observe tremor of the hands, against which the author successfully employs the electric current. Saturnine colic and paralysis are rarer than formerly, an improvement due principally to the difference in the composition of the materials of which the type is made, to the precaution of cleaning it from dust, as well as frequently rubbing the boxes which contain it; lastly, to the care of the workmen, who no longer put the letters in their mouth. Hernia is common, particularly among the pressmen; in them we occasionally observe distortion of the joints of the fingers. Fissures and callosities form on the thumb and index finger of the right hand, on account of the roughness of the characters, particularly if they are new and damp with the matters with which they are polished; moreover, in consequence of the habit the printers have of washing themselves with alkaline water or bad soap. Amblyopia and myopia, so very prevalent among typographers, terminate the sketch drawn by the author of the diseases of this interesting class of artisans, with whom we are in daily contact, and whose intelligence and diligence we have constant reason to admire.—*Lo Sperimentale*, December, 1859, p. 560.

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REGULATIONS FOR ADMISSION OF FOREIGN MEDICINAL SUBSTANCES INTO RUSSIA.—The *St. Petersburg Journal* contains a decree of the Medical Council of Russia upon this matter. Russia has for a number of years been the center and privileged territory of inventors of all kinds, and from every country. As long as more or less new or useful inventions in industry, commerce, or the arts were concerned, the authorities have only interfered for the granting the patent, leaving the public as the sole judge of the merit of the invention. But when dangerous products are concerned, such as chemical or pharmaceutical substances, which by their very nature escape all appreciation by the public, competent

authority, whose duty it is to watch over the health of all, ought to intervene in order to protect the purchasers against error and charlatanism. The number of new medicines prepared abroad and offered to the public through prospectuses and advertisements, becomes every day greater, and demands for permission to import new remedies flow in from all parts of Europe. If the Medical Council were to listen to all these inventors of secret medicines indiscriminately, and reply to the voluminous memoirs which accompany their samples, time would not suffice; it would, in the examination of pretended discoveries, the compositions of which are usually based on neither science or common sense, but on interested calculations, lose precious time which should be devoted to serious questions. To avoid such loss, and to prevent foreign inventors of secret remedies, undergoing needless trouble and expense, the Council publishes an extract from the Russian code of what relates to medicinal substances brought from abroad. Every inventor must transmit to the Medical Council a specimen of his invention, accompanied by a note indicating its ingredients. The Council causes an analysis to be made, and if it recognizes the substance as likely to be useful, it regulates its employment, and fixes the price. If the proposed remedy is of really a serious character, so that it is proved to be better than similar ones in use, or while of equal efficacy with them it can be more easily employed and sold cheaper, the Council may accord to the inventor the privilege of an exclusive sale for a certain number of years at the price determined on—the secret of the composition being revealed at the end of such period. Moreover, the Medical Council will not proceed to the examination of any of these substances, unless they have been already approved of by the medical bodies of the country to which the inventor belongs, if their employment is dangerous, if their preparation implies costly apparatus or special qualification, and if they will not keep well after they have been prepared.—*Med. Times and Gaz.* from *Union Med.*, No. 135.

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OBITUARY RECORD.—Died, in Dublin, on the 1st of December, of apoplexy, after only three hours' illness, Sir Henry Marsh, Bart, M. D., in the 70th year of his age. Dr. Marsh has during the last thirty years occupied the foremost place among the medical practitioners of Dublin.

**SPONTANEOUS PELVIC ABSCESS.**—It is seldom indeed that an abscess presents itself in either the pelvis or the abdomen without some assignable cause. When occurring in the former, it is usually from the effects of parturition; and sometimes an abscess may arise in some part of the abdomen or pelvis as the result of vertebral disease. At the present time there is a female aged fifty-five years, in Mary ward at St. Bartholomew's Hospital, who was admitted on the 21st of September, under Dr. Farre's care, with pain in the right flank, which had been present for about ten months, and for which she could assign no cause. Her last child was born eighteen years ago, and she had a miscarriage ten years since; the catamenia have ceased for some years. She resides in the City road, and has been in the habit of lifting a heavy pail, and now and then has felt a "rick in her side." There was no appreciable swelling on admission, but there was pain, with rigors and quick pulse. The bowels were always regular. Fluctuation was perceptible, and in a few days an abscess pointed in three places; it was opened above Poupart's ligament, and three cupfulls of matter were let out. This was followed by considerable relief, and when we last saw her she was improving under the use of good diet, wine, and quinine, and her pulse was 120. It seems most probable that the suppuration commenced in the pelvis, whatever the true cause of it may have been, but there is no evidence to prove that it arose from injury; nor from the cæcum, because there was no induration around that part of the alimentary canal, and the bowels have always been regular.—*Lancet*, Nov. 24, 1860.

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**REMOVAL OF A PIBRO-PLASTIC TUMOUR FROM THE PAROTID REGION.**—An interesting case of tumour in the region of the parotid gland was submitted to the operation of removal at St. George's Hospital, on the 8th inst., by Mr. Prescott Hewitt. The history is that of non-malignancy. The patient is a healthy-looking woman, twenty-four years of age, a lady's maid, who has had a tumour in the left side of the neck, extending under and behind the angle and ramus of the jaw in the parotid space, for a period of twenty years. She never suffered any inconvenience from it, but it caused some deformity. About six months back she consulted a surgeon about it, who prescribed a mixture of bark and iodide of potassium, which she took whilst travelling in Scotland



with her mistress. At the same time she thought she might loosen the growth to expedite absorption, and every day worked away at it. This manipulation had the affect of increasing the vitality of the tumour, and in a very short time it was fully one third larger than it had been for so many years. On her return to town she became a patient in St. George's Hospital, and the morbid growth was removed under chloroform. For the purpose of avoiding vessels and nerves, Mr. Hewitt made a vertical incision rather at the back of the tumour, and then another posteriorly at right angles, giving the whole a T shape; this enabled him to get behind it, and after a little cautious dissection the mass readily turned out, and resembled a potato in its form and smoothness. A branch of the facial nerve, which covered the tumour, was carefully detached and held on one side by Mr. Pollock with a hook; no nerve therefore was wounded, nor even any small vessels—a circumstance somewhat unusual in operations in this situation. On section, the nature of the tumour was found to be fibro-plastic, with a few cartilaginous masses imbedded in it, thus forming a conglomeration of the enchondromatous and fibro-plastic. The parotid gland in the present instance was normal; a part of it overlapped the tumour, and it was dissected away from it. We are glad to say that the patient is doing well, and will probably make a good recovery.—*Lancet*, Nov. 24, 1850.

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DUPUYTREN ON TOBACCO SMOKING.—“I cannot understand the progress of this filthy custom among educated people. It is, indeed, incredible that a man of liberal education should consent thus deliberately to debase his intellect; that a man, who has enjoyed the pleasures of literary and scientific information, should prefer to the sublime pleasures of the mind the ignoble pleasure of rendering himself disgusting to all about him.”—*Med. Times and Gazette*, Nov. 24, 1860.

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UNIVERSITY OF EDINBURGH.—The increase in the number of students in the University, which was marked last year, continues this session. We understand that Lord John Russell's eldest son has this year matriculated in the University, in which his father was a student fifty years ago.—*Med. Times and Gaz.*, Nov. 17.

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## Original Communications.

*Notes on some of the Chemical Reactions of Codeine, Meconine, Narceine, and Aconitine.* By T. G. WORMLEY, M.D.

### CODEINE.

It is well known that *codeine*, *meconine* and *narceine*, form three of the proximate principles obtained from opium. The specimens examined were prepared by E. Merck, of Darmstadt, and were apparently perfectly pure.

The *codeine* was in large transparent colorless crystals. A saturated water solution of the alkaloid has a strong alkaline reaction. In the following investigations, the solutions were exactly neutralized by acetic acid. The fractions refer to the fractional part of a grain of codeine in solution in one grain of water; when not otherwise stated, the reagents were applied to a single grain of the solution, contained on a glass slide or in a watch crystal.

#### 1. IODINE IN IODIDE OF POTASSIUM.

The reagent used, was prepared by dissolving twenty-four grains of iodide of potassium in one fluid ounce of water, and then adding to the mixture eight grains of pure iodine.

1.  $\frac{1}{100}$ th grain of codeine in one grain of water, gives, with a small drop of the reagent, an immediate copious deep red brown amorphous precipitate, which, after a time, becomes crystalline, especially if the drop be somewhat distributed by means of a glass rod. The precipitate is readily soluble in alcohol, from which it is soon redeposited in a different crystalline form: the latter crystals are especially beautiful when viewed with polarized light.

2.  $\frac{1}{1000}$ th, gives much the same as in 1.
3.  $\frac{1}{10000}$ th, yields a very good reddish yellow deposit.
4.  $\frac{1}{50000}$ th, a good yellowish precipitate.
5.  $\frac{1}{100000}$ th, gives a very fair deposit; better than the same quantity of any alkaloid that we have examined.
6.  $\frac{1}{500000}$ th, a perceptible cloudiness.

## 2. BROMINE IN BROMOHYDRIC ACID.

The reagent was prepared, by saturating a strong solution of bromohydric acid, with bromine.

1.  $\frac{1}{100}$ th grain of codeine, yields with the reagent, a copious bright yellow pulverulent precipitate, which, after a time, dissolves, but is reprecipitated upon the addition of more reagent. The precipitate furnishes no crystals.
2.  $\frac{1}{1000}$ th, a copious yellow deposit.
3.  $\frac{1}{10000}$ th, gives a fair yellow precipitate.
4.  $\frac{1}{25000}$ th, furnishes a very perceptible cloudiness.

## 3. CHLORIDE OF GOLD.

1.  $\frac{1}{100}$ th grain gives a copious orange colored amorphous precipitate, which upon the addition of a small drop of a strong solution of potash, is changed to bluish black.
2.  $\frac{1}{1000}$ th, gives a very good yellow precipitate, which dissolves in a drop of potash solution, leaving a few bluish flakes.
3.  $\frac{1}{2500}$ th, a pretty good precipitate.
4.  $\frac{1}{5000}$ th, immediately a perceptible cloudiness, which improves and soon becomes quite distinct.

## 4. BICHLORIDE OF PLATINUM.

1.  $\frac{1}{100}$ th grain of codeine, gives immediately a copious amorphous precipitate, which is readily soluble in acetic acid, but unchanged by potash.
2.  $\frac{1}{500}$ th, after several minutes a partly granular yellow ring forms around the margin of the drop.

## 5. SULPHOCYANIDE OF POTASSIUM.

1.  $\frac{1}{100}$ th grain, gives no immediate precipitate, but after standing a few minutes, crystalline needles begin to separate, these increase, and after a little time the drop is a mass of groups of needles.

If the mixture is stirred with a glass rod, crystals begin to form immediately, and in a little time the drop becomes a mass of crystals.



2.  $\frac{1}{300}$ th, by stirring the drop, after a few minutes crystals can be seen with the microscope, which soon become quite perceptible to the eye. They form principally along the margin of the drop.

#### 6. IODIDE OF POTASSIUM.

1.  $\frac{1}{100}$ th, immediately crystalline needles appear, and soon there is a copious deposit. By stirring the mixture, in a little time it becomes a mass of crystals.

2.  $\frac{1}{300}$ th, after stirring the mixture for a few minutes, it gives a perceptible crystalline precipitate.

#### 7. BICHROMATE OF POTASH.

1.  $\frac{1}{100}$ th, no precipitate even by stirring, but after standing several minutes, crystalline tufts begin to separate, these increase, and soon the drop becomes a mass of crystals.

The protochromate of potash gives no precipitate.

#### 8. CARBAZOTIC ACID.

1.  $\frac{1}{100}$ th grain of codeine, yields, with a drop of a strong alcoholic solution of carbazotic acid, a copious yellow precipitate, which remains amorphous.

2.  $\frac{1}{1000}$ th, gives a quite good yellow deposit.

3.  $\frac{1}{2500}$ th, no immediate indication, but after a little time, a quite good cloudiness.

#### 9. POTASH.

1.  $\frac{1}{100}$ th grain of codeine, gives with a small drop of potash solution, a rather good white pulverulent precipitate, which remains amorphous.

#### 10. NITRIC ACID.

A few crystals of codeine, introduced into a drop of nitric acid of sp. gr. 1.40, become orange red, and slowly dissolve to a yellow solution, with the evolution of hyponitric acid. The addition of a drop of potash solution, produces a white precipitate; and when the mixture is evaporated to dryness, it leaves a yellow residue.

The addition of a few drops of nitric acid to a strong solution of codeine, turns it faintly yellow.

1.  $\frac{1}{100}$ th grain of codeine as acetate, evaporated in a water bath, leaves a glacial residue, which, after it has cooled, if acted upon by a drop of strong nitric acid, becomes red-yellow, and dissolves with a yellow solution. This solution evaporated on a wa-

ter bath, leaves a yellow residue, which when cold and acted upon by a drop of potash solution, changes to a beautiful orange, and partially dissolves with a solution of the same color which is permanent.

2.  $\frac{1}{1000}$ th, evaporated, leaves a glacial residue, which, after it has cooled, dissolves in a drop of nitric acid, with an orange tint, and gives a yellow solution. This evaporated leaves a slight yellow residue, which with potash is changed to very good orange and partially dissolves with an orange solution.

3.  $\frac{1}{5000}$ th, residue, treated with nitric acid and evaporated leaves a pale yellow deposit, which when treated with a small drop of potash, is but little changed, but if the potash mixture is evaporated, it leaves a fine yellow orange deposit, mixed with some few crystals of a potash salt.

4.  $\frac{1}{10000}$ th, treated exactly as in 3, leaves after evaporation with the potash, a yellow orange deposit, mixed with crystals of a potash salt. A drop of water will readily dissolve the crystals, and leave yellow orange flakes, with a yellow orange solution, which remains unchanged for some hours.

A  $\frac{1}{1000}$ th residue dissolved in a drop of nitric acid, and then a drop of chloride of tin solution added, gives a pale red solution, which soon changes to yellow. This solution shows no change when heated, and when evaporated, leaves a yellow residue.

## 11. SULPHURIC ACID.

1.  $\frac{1}{100}$ th evaporated to dryness, and the residue treated with a drop of concentrated sulphuric acid, dissolves with a yellow solution. If the mixture is then heated on a water bath, it changes to a beautiful purple.

The sulphuric acid solution of a  $\frac{1}{1000}$ th residue, when acted upon by a small crystal of nitrate of potash, yields a dirty-red green solution, which when heated changes sometimes to a beautiful red orange, at others to a brown color, depending upon the amount of acid, nitre, and heat applied.

2.  $\frac{1}{10000}$ th residue, treated with a small drop of sulphuric acid, and exposed to a heat a little above that of the water bath, gives a good purple solution. The result, however, is much influenced by the amount of acid and heat applied.

## 12. SOLUBILITY.

1. *In Water.* According to Robiquet, 100 parts of water at 59°

F., dissolves 1.26 parts codeine. This would be equivalent to 1 part of codeine in 80 parts of water.

An excess of powdered codeine was digested with distilled water with frequent agitation for 15 hours, at a temperature varying from 50° to 55° F. After filtering, the filtrate evaporated to dryness left a crystalline residue, corresponding to 1 part of codeine in 128 parts of water. The alkaloid is more soluble in hot water, from which it separates in crystals as the solution cools.

2. *Absolute Ether.* Excess of powdered codeine was digested with ether under the same circumstances as above. 100 grains of the filtrate left by spontaneous evaporation a crystalline residue, which, after being heated in a water bath, weighed 1.825 grains. This would indicate that 1 part of codeine had dissolved in 54.8 parts of absolute ether.

3. *Chloroform*, under the same circumstances, dissolved 1 part of codeine in 21.5 of chloroform.

The alkaloid is very soluble in alcohol.

Corrosive sublimate, ferro and ferricyanide of potassium, nitrate of silver and sulphate of copper, yield no precipitates with a  $\frac{1}{100}$  solution of codeine.

## MECONINE.

The meconine examined, was in beautiful snow-white crystals. Meconine is a perfectly neutral body, its aqueous solution has no effect upon litmus. In the following investigations the substance was dissolved directly in water.

### 1. IODINE IN IODIDE OF POTASSIUM.

1.  $\frac{1}{500}$ th grain of meconine dissolved in one grain of water, gives with the reagent an immediate copious yellow brown precipitate, which very soon becomes darker, and soon changes to a yellow crystalline deposit, which when dry resembles spangles of gold dust. The precipitate dissolves readily in alcohol, from which it does not separate, as in the case of codeine; nor does the alcoholic solution when treated with acetic acid furnish crystals.

2.  $\frac{1}{1000}$ th yields a good yellow brown precipitate, which soon becomes darker from the separation of granules of iodine.

3.  $\frac{1}{250}$ th, no indication for some time, then, a slight cloudiness, followed by dark granules.

### 2. BROMINE IN BROMOHYDRIC ACID.

1.  $\frac{1}{50}$ th, after a few moments, crystals begin to form, which in



a little time increase to a quite copious yellowish deposit of short needles and groups of hair-like crystals. When excess of reagent is used, the deposit consists principally of short needles; deficiency of reagent, yields the hair-like groups. After a time the crystals become colorless. The deposit is insoluble in several drops of acetic acid; slowly dissolves in large excess of alcohol. The alcoholic solution treated with acetic acid yields no crystals, even after standing for some time.

2.  $\frac{1}{1000}$ th, in a very little time, a quite good crystalline deposit as above.

3.  $\frac{1}{2500}$ th, after a little time, a very satisfactory crystalline precipitate, of the same character as above.

4.  $\frac{1}{5000}$ th, no indication after standing some time.

The above is quite a characteristic reaction of meconine.

### 3. SULPHURIC ACID.

If a few crystals of meconine be added to a small drop of concentrated sulphuric acid, they become yellow, and dissolve with a slight yellow or clear solution, which when heated changes to a deep and beautiful blue.

1.  $\frac{1}{500}$ th solution evaporated in a watch glass, and the residue moistened with a small quantity of sulphuric acid and then heated over the flame of a spirit-lamp, becomes an intense blue and dissolves with a solution of the same color.

2.  $\frac{1}{1000}$ th dry; when moistened with acid and heated, yields much the same as 1.

For the success of this reaction, it is essential that the least possible quantity of acid be applied to the residue; this is best done by means of a glass rod moistened with the acid. The mixture is then heated over the flame of a spirit-lamp until the residue begins to change to blue, which does not take place until vapors of the acid begin to be evolved, the heat is then discontinued.

3.  $\frac{1}{10000}$ th, treated as above, yields quite satisfactory results.

4.  $\frac{1}{2500}$ th, if the deposit is not much scattered, yields a very distinct blue.

### 4. SULPHURIC ACID AND NITRATE OF POTASH.

When a few crystals of meconine are dissolved in a drop of concentrated sulphuric acid, and then a few crystals of nitrate of potash—more than the meconine used—be stirred in the acid mix-

ture, it immediately becomes yellow, and very soon changes to beautiful scarlet orange, which very slowly fades. If the mixture is heated the orange color is soon discharged, with effervescence, becoming yellow.

The smallest crystal of meconine, with a quite small drop of acid, and excess of nitrate of potash, yields a good amber color, which very slowly fades to faint yellow.

Bichromate of potash crystal, stirred in a sulphuric acid solution of meconine, yields only a slight yellow solution, which, when heated, changes to greenish.

#### 5. NITRIC ACID.

When a few crystals of meconine are added to a drop of strong nitric acid, they dissolve with a clear solution, which suffers no change of color upon the application of heat. The solution is unaffected by a drop of chloride of tin solution.

#### 6. SOLUBILITY.

1. *In water.* Water was heated with excess of meconine, and the mixture allowed to stand at a temperature of about 50° F. for several hours. 100 grains of the filtered fluid left upon evaporation a crystalline residue of .18 grains. This would indicate that 1 part of meconine requires 555 parts of water at 50° to dissolve it. At 60° 1 part of meconine remains dissolved in 500 parts of water.

One part of meconine will dissolve in 100 parts of hot water, but as soon as the solution begins to cool, it begins to separate in crystals.

2. *Absolute ether*, was digested for 15 hours at 50° with excess of meconine, after filtering and evaporating, it left a fine crystalline residue, indicating that 1 part of meconine had dissolved in 136 parts of the ether.

3. *Chloroform*, at the ordinary temperature, will readily dissolve  $\frac{1}{10}$ th of its weight of meconine.

Potash, iodide of potassium, chromate and bichromate of potash, sulphocyanide of potassium, ferro and ferricyanide of potassium, chloride of gold, bichloride of platinum, carbazotic acid and corrosive sublimate, yield no precipitate with a  $\frac{1}{500}$ th solution of meconine.

#### NARCEINE.

The narceine examined was in beautiful silky crystals. A saturated aqueous solution of the substance is perfectly neutral. The

solutions in the following experiments were prepared by dissolving the narceine in pure water, when necessary by the aid of heat.

### 1. SOLUBILITY.

1. *In water.* Excess of narceine was digested, with frequent agitation, for 24 hours in water at a temperature varying from 60° to 65° F. 166 grains of the filtered fluid left a crystalline residue of .10 grains. This would indicate that 1 part of narceine required 1660 parts of water at 65° to dissolve it.

Although the substance is thus sparingly soluble in cold water, it dissolves much more readily when heated, and it is but slowly deposited from the solution as it cools. One part of narceine will dissolve in 500 parts of water, as soon as the mixture is brought to the boiling point, and the solution may then be exposed to 55° without any narceine separating for nearly half an hour. A  $\frac{1}{1000}$ th solution may stand some hours at 45° before it begins to deposit crystals.

2. *Chloroform.* Excess of narceine digested for 24 hours at 65°, left a residue indicating that 1 part of narceine required 7950 parts by weight of chloroform to dissolve it.

3. *Absolute ether,* treated for 24 hours with narceine, as above, left a residue indicating that 1 part required 4066 parts of ether to dissolve it.

### 2. IODINE IN IODIDE OF POTASSIUM.

1.  $\frac{1}{5000}$ th grain of narceine in one grain of water, gives with the reagent, an immediate copious red-yellow amorphous precipitate, which soon changes to a mass of delicate crystalline tufts; soluble in large excess of acetic acid, except a slight residue of amorphous matter. The precipitate dissolves readily in alcohol, from which, however, almost immediately, the same crystalline tufts as above begin to separate, and after a little time there is a good deposit.

2.  $\frac{1}{10000}$ th yields a good yellow deposit, which soon becomes beautiful crystalline tufts.

3.  $\frac{1}{25000}$ th, with a small drop of the reagent, after a little time a rather good yellow deposit of somewhat larger crystalline tufts than from 2.

4.  $\frac{1}{50000}$ th yields after a time some few tufts of crystals; it requires, however, the proper adjustment of reagent, otherwise crystals will not form.



## 3. BROMINE IN BROMOHYDRIC ACID.

1.  $\frac{1}{300}$ th yields a copious yellow amorphous precipitate, which after a time dissolves, but is reprecipitated upon the addition of more reagent. The precipitate yields no crystals.

2.  $\frac{1}{1000}$ th gives a copious yellow precipitate which is readily soluble in alcohol, and also in a few drops of acetic acid.

3.  $\frac{1}{500}$ th, a good yellow precipitate, which after a time dissolves but is reproduced upon the farther addition of reagent.

4.  $\frac{1}{10000}$ th, in a few moments a precipitate begins, and soon there is a good yellow deposit.

5.  $\frac{1}{20000}$ th, after a time there is a quite perceptible cloudiness

## 4. CARBAZOTIC ACID.

1.  $\frac{1}{300}$ th yields with an alcoholic solution of the reagent, an immediate copious yellow amorphous precipitate, which does not crystallize.

2.  $\frac{1}{1000}$ th, an immediate precipitate; soluble in a few drops of acetic acid.

3.  $\frac{1}{2500}$ th, a good yellow deposit.

4.  $\frac{1}{5000}$ th, in a very little time, a fair yellow amorphous precipitate.

## 5. CHLORIDE OF GOLD.

1.  $\frac{1}{300}$ th gives with the reagent, a rather copious yellow flocculent precipitate, which readily dissolves, with a clear solution, in a drop of potash solution.

2.  $\frac{1}{1000}$ th, much as in 1. 5 grains of the solution in a small test tube, treated with the reagent, and the mixture heated, the precipitate dissolves without any change of color, but it is immediately redeposited upon cooling.

3.  $\frac{1}{5000}$ th yields a fair yellow deposit.

4.  $\frac{1}{10000}$ th, after a little time, there is a quite perceptible cloudiness, which soon becomes quite satisfactory.

None of the above deposits become crystalline.

## 6. BICHLORIDE OF PLATINUM.

1.  $\frac{1}{300}$ th yields, with a small drop of the reagent, a fine flocculent precipitate.

2.  $\frac{1}{1000}$ th gives no indication.

## 7. BICHRIMATE OF POTASH.

1.  $\frac{1}{300}$ th gives no immediate precipitate, but soon crystalline

bushes begin to separate, which after a little become a crystalline mass.

2.  $\frac{1}{1000}$ th, no indication.

Protochromate of potash gives no indication in a  $\frac{1}{500}$ th solution.

#### 8. SULPHOCYANIDE OF POTASSIUM.

$\frac{1}{500}$ th grain of narceine, yields a slight flocculent precipitate.

#### 9. SULPHURIC ACID.

When a few crystals of narceine are placed in a drop of concentrated sulphuric acid, they immediately become red-brown, and dissolve with a reddish or reddish-yellow solution.

1.  $\frac{1}{500}$ th residue in a watch glass, with a drop of sulphuric acid, becomes reddish yellow and dissolves with a yellowish solution, which when heated changes to a deep red color. However, the final color will depend somewhat upon the amount of heat and acid applied.

2.  $\frac{1}{1000}$ th residue, changes to a yellow upon the addition of a small drop of the acid, and gives a faint yellow solution, which when heated becomes reddish brown.

3.  $\frac{1}{10000}$ th residue with a small drop of acid, becomes distinctly yellow, and when heated changes to a rose tint.

When the quantity of narceine is small, the final color is much influenced by the amount of acid and heat applied.

#### 10. SULPHURIC ACID AND NITRATE OF POTASH.

When a few crystals of narceine are dissolved in a drop of sulphuric acid, and then a crystal of nitre stirred in the mixture, it yields a reddish brown, violet, or purple solution, depending upon the quantity of the different substances used. The color is discharged upon the application of heat.

Bichromate of potash crystal, when stirred in a sulphuric acid solution of narceine, changes the solution to a dirty red color, which is changed to green by heat.

#### 11. NITRIC ACID.

A few crystals of narceine dropped into strong nitric acid, immediately become orange yellow, which quickly change to yellow, and dissolve with a faint yellow solution, which when heated suffers little or no change.

A nitric acid solution of narceine is unaffected by chloride of tin solution, even by heat.

None of the following reagents yield a precipitate with a  $\frac{1}{300}$ th solution of narceine : ferro nor ferricyanide of potassium, iodide of potassium, nitrate of silver nor corrosive sublimate.

### ACONITINE.

The aconitine examined was prepared by Morson. It had a whitish color, and under the microscope appeared as granular masses ; no distinct crystals were observed.

In the following examinations the alkaloid was dissolved by the aid of just sufficient hydrochloric acid.

#### 1. POTASH.

1.  $\frac{1}{100}$ th grain of aconitine in one grain of water, gives with a small drop of potash solution, an immediate dirty white flocculent precipitate, which is insoluble in large excess of reagent.

2.  $\frac{1}{300}$ th yields a similar precipitate, not readily soluble in several drops of potash solution.

3.  $\frac{1}{1000}$ th, no indication.

#### 2. AMMONIA.

1.  $\frac{1}{100}$ th gives a dirty white precipitate, not readily soluble in several drops of reagent.

2.  $\frac{1}{300}$ th, only a slight precipitate.

#### 3. CHLORIDE OF GOLD.

1.  $\frac{1}{100}$ th gives an immediate copious light yellow amorphous precipitate.

2.  $\frac{1}{1000}$ th yields a quite good deposit, which is readily soluble in potash.

3.  $\frac{1}{2500}$ th, immediately a precipitate begins, which in a little time becomes quite good.

4.  $\frac{1}{5000}$ th, very soon, a fair precipitate.

5.  $\frac{1}{10000}$ th, in a little time, a quite perceptible deposit.

6.  $\frac{1}{20000}$ th, after a little time, a just perceptible cloudiness, which does not become very satisfactory.

#### 4. CARBAZOTIC ACID.

1.  $\frac{1}{100}$ th, gives a copious greenish yellow amorphous precipitate.

2.  $\frac{1}{1000}$ th, a pretty fair greenish deposit.

3.  $\frac{1}{5000}$ th, in a very little time, a perceptible precipitate.



## 5. CORROSIVE SUBLIMATE.

1.  $\frac{1}{100}$ th yields a very good dirty white precipitate.
2.  $\frac{1}{500}$ th, no indication.

## 6. IODINE IN IODIDE OF POTASSIUM.

1.  $\frac{1}{100}$ th yields a copious red-brown amorphous precipitate, which is insoluble in large excess of potash.
2.  $\frac{1}{1000}$ th, a copious yellowish precipitate, soluble in a drop of potash solution, with a white precipitate.
3.  $\frac{1}{10000}$ th gives a good precipitate.
4.  $\frac{1}{50000}$ th, a quite distinct reaction.
5.  $\frac{1}{100000}$ th gives a perceptible cloudiness.

## 7. BROMINE IN BROMOHYDRIC ACID.

- \* 1.  $\frac{1}{100}$ th yields a copious yellow amorphous precipitate.
2.  $\frac{1}{1000}$ th, a good yellow deposit.
3.  $\frac{1}{10000}$ th, much as 2.
4.  $\frac{1}{50000}$ th gives a quite perceptible cloudiness.

## 8. SULPHURIC ACID.

A small quantity of aconitine, when placed in a small drop of sulphuric acid, assumes a yellow color, and dissolves without any marked change; a small crystal of nitrate of potash stirred in the mixture produces no visible effect, even upon the application of heat.

*Nitric acid* dissolves the alkaloid with a faint yellow color, and the solution is unchanged by heat, or the addition of a drop of chloride of tin solution.

## 9. PHYSIOLOGICAL ACTION.

The most characteristic action of aconitine, as first observed by Dr. Headland, is its effect upon the tongue.  $\frac{1}{1000}$ th grain in one grain of water, will cause a very decided tingling and numbness of that organ, which lasts for nearly an hour. The above quantity being administered to several persons, all pronounced the effect as very decided.

## 10. SOLUBILITY.

1. *Water* was digested with excess of aconitine for ten hours at  $65^{\circ}$ ; after filtering, 107 grains of filtrate evaporated on a water bath, left a residue of .06 grains. This would indicate that aconitine requires 1783 times its weight of water at  $65^{\circ}$  to dissolve it.

The above residue was left as a hard transparent colorless pelticle, which when broken up, appeared as crystalline lamina.

2. *Absolute ether*, treated for several hours with excess of aconitine at 65°, left a transparent glacial residue, indicating that one part of aconitine requires 777 parts of ether for solution.

3. *Chloroform* dissolves the alkaloid freely in all proportions, and leaves it upon evaporation as a glacial residue.

*Sulphocyanide of potassium* produces a perceptible cloudiness with a  $\frac{1}{100}$ th solution of aconitine.

Bichloride of platinum, chromate of potash, bichromate of potash, iodide of potassium, ferro and ferricyanide of potassium, yield no precipitate with a  $\frac{1}{100}$ th solution of aconitine.

COLUMBUS, O.

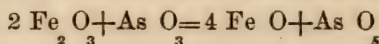
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*Hydrated Sesquioxide of Iron as an antidote to poisoning by arsenious acid.* By WM. WATT, M.D.

The hydrated sesquioxide of iron was proposed as an antidote for poisoning by arsenious acid in 1834, by Drs. Bunsen and Berthold, of Gottingen. These gentlemen discovered that if a solution of arsenious acid was agitated with a quantity of the hydrated sesquioxide of iron, that the former was precipitated in a very insoluble form. A knowledge of this fact induced them to make a number of experiments upon animals, in order to test its antidotal powers. Of these experiments they made favorable statements, which were afterward confirmed by the experiments of Orfila, Lesueur, Soubeiran, and others. Opposed to the evidence of these experimentalists, we have only the unfavorable results of Mr. Brett and those of Mr. Orton. It was afterward ascertained, however, that the amount of the antidote used by these gentlemen was uniformly too small. More recently Fasoli has made some experiments on dogs with the hydrated oxide. He states that having procured nineteen dogs, he administered arsenious acid to five of them without the antidote; they all died. To the others, arsenious acid being administered, was followed by the antidote, and they all recovered. Unfortunately, he does not state the amount of arsenic or antidote used in any of his cases. We have a number of cases recorded, in which it is claimed that this antidote has been the means of saving life in the human subject. However, in a majority

of the cases it was not known that the amount of arsenious acid taken would have been sufficient to have produced death.

When used as an antidote, it should be administered in its recently precipitated, gelatinous condition, as it appears to lose its neutralizing powers in proportion to the time it is kept. It is thought advisable, in order to insure its antidotal effects, to administer about twelve parts of the antidote to one of arsenious acid. But, as the antidote is incapable of producing any injurious effects, it may be administered in large quantities. According to Graham, the mutual reaction of the hydrated sesquioxide and the arsenious acid gives rise to the formation of the arseniate of the protoxide of iron. This change would be represented by the following formula:



Taylor says that the hydrate is incapable of acting as an antidote when the arsenious acid has been taken into the stomach in the form of powder. The hydrated oxide, in order to act as an antidote to poisoning by the arsenic salts, requires to be combined with an acid, which may separate the base; then the arsenious acid and the oxide react on each other.

The above results being somewhat discrepant, we, at the suggestion of Professor Wormley, undertook a series of experiments in his laboratory, for the purpose of satisfying ourselves of the real value of the antidote in poisoning by arsenious acid when administered to dogs. We were kindly assisted in the experiments by Dr. Willis and Mr. Pinnell.

The antidote was prepared by precipitating the muriated tincture of iron of the shops with ammonia, filtering through muslin, and washing the filter until the washings were free from ammonia. The mass was then drained.

In administering the antidote about two table spoonsfull of the magma were given to each dog.

Before making any experiments as to the action of the antidote, it was thought advisable to ascertain the effect of the arsenious acid solution alone upon the animals. The first seven cases were, therefore, confined to the acid solution without the antidote.

In the first fifteen cases, the arsenious acid was in solution in the proportion of two grains of the acid in one fluid ounce of water.

*Experiment 1st; weight of dog 50 lbs.*—Two grains of arsenious acid administered; symptoms of pain came on in fifteen minutes; which



were followed in ten minutes more by vomiting, which continued about four or five hours, and were then followed by bloody purging. From this time the animal recovered.

*Experiment 2d; weight 60 lbs.*—Three grains administered; symptoms of pain came on in twenty minutes, and vomiting in about thirty minutes. The vomiting continued with great severity for about six hours; it then gradually ceased, and was followed by purging of blood, which continued about two days, during which time the animal refused to take any food. He finally recovered.

*Experiment 3d; weight 18 lbs.*—Three grains administered; symptoms came on in 15 minutes; the animal apparently suffered great pain, which he manifested by frequently changing his position, whining, &c. He did not vomit for about thirty minutes after the poison had been administered. The vomiting was continued and severe. The matters ejected consisted of a thick white frothy tenacious mucus, which the animal had great difficulty in expelling from the mouth. The vomiting ceased, and he gradually lost the use of his limbs, and died comatose, six hours after the poison had been administered.

*Experiment 4th; weight 15 lbs.*—Three grains administered; symptoms came on in fifteen minutes, followed in five minutes by vomiting, which continued about five hours. The animal died in eight hours after the administration of the arsenic.

*Experiment 5th; weight 12 lbs.*—Six grains administered, but part of the solution evidently passed into the trachea, as its administration was followed by strangulation, coughing, difficult breathing, etc.; vomiting came on almost immediately, and continued about an hour and a half, when the animal died.

*Experiment 6th; weight 25 lbs.*—Six grains administered. Symptoms of poisoning came on in eight minutes, followed immediately by vomiting and symptoms of pain. The vomiting which was very severe, at first consisted of a thick glairy mucus, but soon became mixed with a considerable amount of arterial blood. The animal died in about six hours.

*Experiment 7th; weight 30 lbs.*—Six grains administered. In about three minutes the animal showed evident signs of pain, and vomited in five minutes. The vomiting was severe, and continued almost without interruption for five hours, when it ceased, and the animal becoming comatose died.

*Experiment 8th; young dog, weight 10 lbs.*—Two grains ad-

ministered, followed in about five minutes by the antidote. The animal showed some signs of the action of the poison in about forty minutes, but did not vomit for about an hour; he then vomited once, after which he became stupid and was inclined to sleep. These symptoms continued for about three hours, after which he appeared perfectly well.

*Experiment 9th; weight 15 lbs.*—Three grains administered, followed immediately by the antidote. Symptoms of pain came on in thirty minutes, and vomiting in about one hour after the poison had been administered. The vomited matter consisted of the antidote mixed with the alimentary matter of the stomach. This animal recovered.

*Experiment 10th; weight 12 lbs.*—Three grains administered. This was followed in about ten minutes by the antidote. Symptoms of poisoning came on in thirty minutes after the arsenic was administered. He then showed some signs of pain, and vomited two or three times—the vomited matter consisted of mucus mixed with the antidote. During the first three hours, after the appearance of the symptoms, he was somewhat stupid, but at the expiration of that time he appeared about as well as usual.

*Experiment 11th; weight 35 lbs.*—Four grains administered, followed immediately by the antidote. The animal showed no symptoms for upwards of an hour; he then became slightly uneasy, being inclined to move about. These symptoms, though slight, continued for an hour when he vomited twice; the vomiting was attended with but slight effort and was not repeated. Symptoms abated, and the animal appeared to have recovered perfectly in three hours after the arsenic was administered.

*Experiment 12th; weight 20 lbs.*—Four grains administered and followed immediately by the antidote. The animal showed no symptoms for more than an hour; he then appeared to be suffering some pain. One hour and a half after the administration of the poison he vomited; the vomited matter consisted of the antidote mixed with a small amount of mucus. The vomiting was not repeated. This animal recovered speedily, partaking of food in three hours after the poison had been administered.

*Experiment 13th; weight 40 lbs.*—Five grains administered. The antidote was not administered until ten minutes after the arsenic. The animal showed marked symptoms of pain in twenty minutes, then vomited a considerable amount of a thick glairy mu-

cus mixed with the antidote; made several attempts to vomit afterward, and appeared somewhat dull and stupid for about six hours. The symptoms gradually diminished and he recovered in about eight hours.

*Experiment 14th; weight 18 lbs.*—Six grains administered, followed immediately by the antidote; symptoms of poisoning appeared in ten minutes, vomited in fifteen, and appeared to suffer some pain for about six hours, during which time he made a number of attempts to vomit. This animal showed none of the symptoms of depression or stupor that marked some of the other cases. The animal recovered in about eight or nine hours.

*Experiment 15th; weight 15 lbs.*—Six grains administered and followed in about five minutes by the antidote. The animal vomited almost immediately after the antidote was administered. The vomited matters consisted of a large amount of greased paper, which the animal had eaten; with this was mixed the entire amount of antidote administered, as was shown by the subsequent vomiting. The antidote was not repeated. The symptoms gradually increased in severity, and the animal died in about six hours from the time the arsenic was administered.

In all the following experiments the strength of the arsenious acid solution was in the proportion of twelve grains in one fluid ounce of water.

*Experiment 16th; weight 25 lbs.*—Six grains administered. Symptoms of poisoning came on in eight minutes; the antidote was then administered. The animal vomited in about five minutes after the administration of the antidote, and appeared to suffer some pain. The vomiting was repeated several times, after which the symptoms of pain gradually subsided and the animal recovered.

*Experiment 17th; weight 15 lbs.*—Six grains administered, followed immediately by the antidote. Vomiting commenced in about ten minutes, and was repeated two or three times; after this the animal showed no signs of distress.

*Experiment 18th; weight 18 lbs.*—Six grains of arsenious acid in solution were mixed with about fifteen times its weight of the hydrated sesquioxide of iron and allowed to stand twenty minutes. The mixture was then administered. The closest observation failed to detect any symptom whatever as an effect of the mixture.

*Experiment 19th; weight 15 lbs.*—Seven grains administered, followed immediately by the antidote. Symptoms appeared in



about eight minutes; vomiting in fifteen minutes. The vomiting was repeated three or four times, after which the animal soon recovered, not having showed much signs of suffering.

*Experiment 20th; weight 25 lbs.*—Seven grains administered. The animal exhibited some signs of pain in about five minutes. A large amount of the antidote was then administered; this was followed by vomiting, which was repeated several times, each vomiting showing the presence of the antidote. The animal appeared a little stupid but showed no signs of pain, and recovered in about five hours.

*Experiment 21st; weight 20 lbs.*—Eight grains administered, followed immediately by the antidote. Symptoms of pain and uneasiness came on in eight minutes, followed by vomiting, which continued about an hour and then ceased. After this the animal showed some signs of pain but recovered in about seven hours.

*Experiment 22d; weight 30 lbs.*—Eight grains administered. Symptoms came on in five minutes; the antidote was administered in three minutes after the first appearance of the symptoms; vomiting came on in less than two minutes after the administration of the antidote. The vomiting continued with an apparent increase of all the other symptoms. The antidote was repeated; after which the animal vomited twice or three times. The symptoms gradually diminished, and the animal recovered.

As a deduction from the above experiments it is obvious, when the cases in which no antidote was given, are compared with those in which it was administered, that the hydrated sesquioxide of iron is an antidote for arsenious acid when administered in solution.

COLUMBUS, O.

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### *Diphtheria.* By H. CULBERTSON, M.D.

The nature of this disease is yet a mooted point. Some have considered it allied to scarlatina, and for this opinion there are some reasons, viz.: its appearance during the prevalence of scarlatina; the supervention from it of those sequelæ which so often attend scarlatina, or dropsy, and that desquamative nephritis so well known as a result of the latter affection: and again, in it the appearance occasionally of an eruption on the surface somewhat resembling that of scarlatina. But it must be remembered that,

during the epidemic, the number of cases of scarlatina is limited as compared to that of diphtheria, and also that the supervention of the former on the latter is almost certain to end in death; the system being able to bear one, but not both, thus hinting at their dissimilarity. And again, the well known fact that diphtheria may supervene upon scarlatina, points to a difference in their nature, and to the conclusion that if specifically the same, the attack of one should give immunity from the other; on the contrary, we know it to be true that the first following the last is extremely fatal. Again, scarlatina does not attack the air passages, as does diphtheria.

Others regard this disease, perhaps with good reason, as an erysipelas. This conclusion would seem to be borne out by the fact that we have cases of erysipelas prevailing generally, simultaneously with those of diphtheria, and we have observed the former in the same room with the latter.

Again, it resembles erysipelas in its rapid spreading tendency; in its migrating character (which we have seen in two cases;) in erysipelas frequently attacking the mucus membrane; in its early assuming the asthenic type; in the production of false membranes which resemble those found on the peritoneum in erysipelalous peritonitis, and upon open wounds, from the accession of erysipelas; in the wide-spreading suppuration and absence of a pyogenic membrane.

It thus seems that there are more reasons for believing diphtheria to be allied to erysipelas than to scarlatina; still the question is far from being settled, and may never be.

That this disease is produced by a morbid cause diffused through the atmosphere, is the opinion of most writers. This principle, be it what it may, seems to us to be infectious rather than contagious. The prevalence of this morbid agent modifies more or less prevailing diseases of the air passages. Thus are seen numerous cases of croup in children 10 and 15 years of age; pneumonia and bronchitis from slight causes, which hang to the patient with uncommon tenacity.

The symptoms of this complaint are too well known to need mentioning; but the diagnosis cannot be too closely considered.

The distinguishing mark of diphtheria has always been claimed to be the *white patches* upon the mucus membrane of the throat, the deposit beginning above and traveling downward; whilst the membrane of croup appears below and pursues an upward course.

Though this statement is generally true, we are convinced there are cases of diphtheria showing no false membrane, as there are cases of croup without membrane. To illustrate: during an epidemic of diphtheria a child takes cold, and apparently has for a week common catarrh; suddenly, in a few hours, acute symptoms supervene, false membrane appears, not only in the upper part of the throat, but upon the epiglottis, and between this structure and the tongue, and yet there is no croup. Such cases have occurred in my own practice, as well as in that of others. It may be urged that this is a case of common catarrh, degenerating into diphtheria; but it would seem more reasonable that it is undeveloped diphtheria, since the epidemic is prevailing around, even in the same house, showing itself by the true patches. Why, therefore, should catarrh cease to be catarrh, and immediately become diphtheria? It is as safe doctrine to regard such catarrh as diphtheritic, as to consider tracheitis croup before the formation of false membrane, and safer to treat it as diphtheritic catarrh. What, then, is the difference between common catarrh and diphtheritic catarrh? So far as we are able to discriminate, the common runs its course in a few days, without much profound disturbance of the mucus membrane. The powers of life are adequate to overcome the disease; but in the diphtheritic the attack hangs on a week or two, locating in the upper air passages, these remaining, showing in slight cough, apparently in the trachea, in hoarseness and coryza. On observation, the throat and epiglottis are red, and there is some general debility. In such condition may the patient remain for a time; nature is on the alert, but she cannot remove the disease. Possibly you may have given an emetic, expectorants, pediluvia, &c.; yet the disease is still on your patient, and either runs a mild course, or the powers of life giving away, or the cause concentrating, it proceeds to a fatal issue. We do not wish to be understood as saying that diphtheria always begins thus gradually; on the contrary, it generally attacks rapidly.

What are these patches or false membranes? Writers inform us they are exudations of fibrin, having a low grade of organization. If examined, they are found of various grades, from a mere amber colored film to an expansion the sixteenth of an inch in thickness. Their color varies from snow white to yellowish white, while here and there may be seen a few red points. More closely viewed with the microscope, we have been enabled to distinguish broken



down blood globules, epithelium, pus globules, granules, and a low form of bond membrane, but no fibrillation. In proportion as the disease is aggravated, i. e., as it approaches the phlegmonous variety, the softer is the structure and the more globules does it contain. Without further considering the diagnosis, and deeming it unnecessary to mention the exciting causes, we pass on to notice the forms of the disease. Of these, the most simple is the—

1st. Catarrhal, mentioned above.

2d. The membranous; in which the substance of the mucus membrane is attacked and the tonsils may be enlarged. This presents a tendency to spread into the trachea, but is not so liable to extend into the cellular structure of the throat and neck, as in the—

3d. Phlegmonous form; in which the general cellular tissue of the throat and neck is the main seat of the disease, the mucus membrane of the throat suffering in common.

4th. The metastatic form, which re-localization we have observed in different parts of the body.

In the first of these forms there may be scarce any swelling of the mucous membrane; but it is red, as well as that of the tongue and epiglottis. In the second, the tonsils may be swollen somewhat, and the lymphatic glands but little enlarged, and deglutition and respiration scarce affected; or this may pass into the third form. In the third form, swelling of the cellular structures and glands of the throat and neck is great from the first; respiration and deglutition are early impeded, the tendency evidently being to death by strangulation. It is this form that is so fatal, as to sweep off whole families; seeming at times as though nothing could be done to arrest its progress.

These seem to be the great forms of the disease, which presents different terminations, or rather effects, viz: 1st. Resolution. 2d. Expectoration of blood or pus, mixed with mucus. 3d. Ulceration. 4th. Effusion of serum into the cellular tissue of the neck, or beneath the mucous membrane. 5th. Suppuration from mucus surface, or into the cellular membrane of the neck. 6th. Mortification. 7th. Collapse.

The most common of these terminations are resolution, expectoration, ulceration, effusion of serum and collapse; general suppuration and mortification not being so often seen, the disease generally ending before these are reached. Any of the former may end in collapse, either in the first stages, from the overwhelming of the

nervous system by the potency of the morbid poison of the disease, or after any of the other endings, from failure of the powers of life.

The catarrhal form may end in resolution, but the membranous and phlegmonous rarely do. This form may also end in expectoration of blood, mucus and pus mixed; or it may pass into the membranous stage, which may terminate in expectoration, ulceration, serous effusion, and probably diffused suppuration, or rarely mortification. This form is especially liable to pass along the membrane into the larynx, and produce death by acute œdema; it also frequently ends in ulceration, which may be superficial or deep, or, extending, may destroy the velum or tonsils and adjacent structures, and then interfere with articulation and deglutition. If this pass into the phlegmonous form, then death will take place, not only from prostration and closing of the glottis within, but also from pressure around the larynx, and upon the large blood-vessels of the neck.

If this form is arrested, the serum is gradually absorbed, and the case may recover without destruction of the tissues of the throat and neck, or the process may end in the throat generally, excepting at one point, giving rise to suppuration. This result, however, is not common unless the attack supervene upon scarlatina. The metastatic form, according to our observation, comes generally from the membranous variety; at least such was the origin in two of our cases. In both there was diphtheria in the same house, and both were first attacked with the sore throat, which subsided when the other parts became affected. Both cases were inveterate, and ran a specific course in spite of treatment. In one, the heart and structures of the scapula were the seat of disease, and in the other, one knee-joint only.

*Prognosis.*—This varies according to the strength of the patient, the intensity of the epidemic, and the stage when seen; and it is more dangerous in proportion as the disease approaches the phlegmonous form. If ulceration supervene we have always regarded this as favorable, as it inclines us to believe the disease will not spread. Early prostration is a very unfavorable symptom, and bids us husband all the powers of life. Previous disease which debilitates should dictate a guarded prognosis. If the throat should escape without much lesion, and pneumonia supervene, we cannot much expect recovery. The catarrhal form should be watched

closely, or, when we least expect it, the case may develop the membranous variety; in which result we always expect a bad termination. The reason for this is, that as the mucous membrane of the air-passages is more or less diseased, the morbid action most generally passes downward into the lungs.

In the treatment of this disease our object has been (if collapse is not present) to make a decided impression upon the arterial system, which shall shorten the sthenic stage, and arrest its progress at once, so that we shall the sooner be able to administer alteratives and tonics. But how is this to be accomplished? Not by bleeding, for we dare not resort to this powerful means lest we induce prostration. We cannot procure an immediate blood stasis with veratrum, as too much time is required to bring the patient safely under its influence, during which period the disease may pass beyond the curative stage. Neither can we obtain our object with purgatives, these requiring too much time. What then will produce this immediate effect? We believe that emetics will. They, as is well known, relax the entire system, reducing the force of the heart's action, promote diaphoresis, evacuate the stomach—often the bowels—and directly and indirectly promote most of the secretions. Nor do they give rise to debility as much as many suppose; on the contrary, patients often feel stronger after their action. After emesis, excessive arterial action must be prevented; and veratrum seems to us to be the best remedy for this object. We wait two or three hours after the stomach has become settled before commencing its use.

1st. *Treatment of Catarrhal form.*—If there is high arterial action, an emetic of ipecac. or syrup scill. comp., is given, this being aided by warm bath, and followed by expectorants, if the attack does not end in resolution. It is generally found that the mucous lining of the trachea is more or less affected at this stage. If the pulse is still hard, veratrum in small doses will be advantageous. If the case does not yield, potassa chloras is given conjointly with expectorants, and still later, mild vegetable tonics, as gentian, &c., may be called for. But if there is depression, which is not common in this form, excitants are proper, as mustard sinapisms, hot bath, and, if necessary, a few doses of stimulants; then, when there is sthenicity, an emetic of ipecac., the action of which is closely watched and depression prevented. The supporting measures will be earlier required than in the preceding case.



The local treatment is mild astringent washes, always applied with a soft sponge probang, care being taken that there are no particles of lime in the sponge and that the end of the handle does not project through the sponge, thus avoiding any lesion of the surface of the membrane, which result would only tend to deepen the inflammation. In this form we have never found it necessary to apply solution of argent nitras, no matter how weak, believing that the disease could not thus be jugulated, and that the application would stimulate the affection, increasing the swelling, &c., and destroy the epithelial layer of the mucus membrane. In this form stimulating applications to the outside of the neck do good.

2d. *Treatment of the membranous form.*—This requires to be still more energetic and prompt; but as debility sooner appears, care is necessary that sedatives do not too much depress. Here the indication is to cut short the active stage that we may the earlier invigorate. If there is depression, which is not uncommon in this form, first stimulate mildly, and follow with an emetic of ipecac, but no antimony; and if the pulse remains hard, quick and frequent, veratrum, in small doses, is given and carefully watched, and the moment the pulse is reduced, and there is no fever, cease giving it. Chlorate potassa is then given in full doses, and if this produce no fever, the Tr. Ferri Murias is added in small doses, repeated every 3 or 4 hours: still later quinine or some of the vegetable tonics will be needed. Stimulants will be called for if there is a tendency to collapse, otherwise they may be given too soon. We are aware that stimulants sometimes contract the capillaries and thus force the blood onward relieving the blood-stasis, but we do not think they do this here; but, on the contrary, believe they increase the engorgement and extend the disease.

If this form extend into the air passages we may have œdema, or the case progressing pneumonia may supervene, or a thick false membrane be deposited in the trachea. In the latter case we have used as recommended by Prof. Horace Green, of New York, probanging with solution of argent. nitras, which contracting the membrane allows more air to enter, and often brings away the membrane on the sponge, or subsequently it is thrown off in coughing. For the œdema, in this or any other form, we apply leaches over the larynx, or cup and scarify the back of the neck, and if patient can bear it an emetic. We doubt the propriety, in this disease, of scarifying the mucus membrane for this complication, or of performing tracheotomy or laryngotomy.

The local treatment should be used with care else it will increase instead of lessen the disease. Argent nitras, in substance, should be applied firmly, only to the patches, scraping off these with the end of the stick, so that the morbid surface may be altered, and coated with the oxide of silver. The influence of this will be felt throughout the whole throat, and the mucus membrane preserved in the main. This is applied rarely oftener than once daily, remembering that we cannot burn out this disease. This is followed with astringent washes and mucilages, and small lumps of ice. Different washes may be used, as the vinegar and salt and alum, sulph zinc and Aqua Camphora, or Plumbi Acetas and the camphor water, or saturated solution of Alum and Soda Biborras, with Mel. and Tr. Myrrh added, or the following every 4 or 5 hours:

℞      Cupri Acetas gr. x.  
          Mel f. 3i.  
          Tr. Myrrh f. 3ss.  
          Acid Sulph. gtt. v.  
          Aqua Dist. f. 3ij.

S

M. sol.

We have recently been applying the following every 4 hours, but do not like its action as well as that of the vinegar, salt and alum mixed:

℞      Glycerine f. 3ij.  
          Liq Ferri sulphas f. 3ii, iij.  
          Mel f. 3i.

S

M.

To the outside of the throat the following ungt. spread thickly on muslin is applied day and night:

℞      Pulv. Camphora 3ss.  
          Axungua 3i.  
          Ungt. Plumbi Acetas 3i.

S

M. et. ft. Ungt.

Hot fomentations are prohibited in this form, thinking they increase swelling.

If ulceration should present the solid argent. nitras is applied to the ulcers. We have also employed for this result the Liq. Hydrarg. Pernitras, diluted one-half, with good results, although it is more painful than the silver, still it seems to have a more decided effect.

3d. *Treatment of the Phlegmonous form.*—Here there is great tendency to collapse, and supporting measures will be required sooner than in the preceding variety. Emetics must be resorted to with extreme caution. However if the fever is active and the pulse hard, ipecac in full doses is given, sometimes adding mustard to prevent prostration. This course is followed with warm bath and diaphoretics, occasionally using small doses of Pulv. Doveri, Chlorate Potassa, Iron and tonics are exhibited almost from the onset of this form. Very soon stimulants will be required, not too freely, but as the nervous system seems to need support. Good food is here needed, as broths, &c.

If the throat can be reached the local measures recommended in the membranous variety are employed, as well as the Camphor and Lead Ungt. outside the throat, avoiding the warm fomentations.

If diffused suppuration is the termination, a small opening will be safer than a large one, as the wound itself may become larger, and its whole internal surface assume the diphtheritic character.

If mortification *is limited* stimulation may bring the patient through, this being an uncommon success. For collapse from any form stimulants, of course, are the remedies both internal and external. In such cases, when the patient could not swallow, we have kept the system up for some time by stimulating and nutritive injection, but only to see the throat swell larger and follow the course of the malady a little longer.

4th. *Treatment of Mctastatic form.*—This calls for treatment according to the new seat of the disease, and its character. As there was in my cases much pain, anodynes were required. In one case mercury was used with advantage; in the other Pot. Iodide did good service. In both tonics Chlorine and Iron were used, under which variety of means both recovered.

It will be seen that we do not rely on purgatives in any of these forms, but we generally open the bowels with a laxative in the commencement of the attack, and after this seldom find it necessary to trouble the patient with physic.

The Tr. Ferri Murias seems to us to act in this disease as it does in Erysipelas, as an alterative as well as a tonic.

We have thought that the Chlorate Potassa is useful in this disease, not only because of the chlorine it contains, but more on account of the large proportion of oxygen in its composition, which acts as an invigorant.



The application of ice to the throat, in a bladder, we have thought of for some time, and a few days since tried it in the case of an adult, but she could not bear the pain it occasioned, and it was soon removed. It may be that we can use it in other cases, but at present we doubt the propriety of the attempt, especially in children.

Thus far our treatment has been intended for children; but the same indications prevail in prescribing for the adult. Of course in them we need not so much fear debility; we can push the sedatives further, and do more with the complications; neither is the complaint so fatal with the older ones; and in such we can avail ourselves of the opiate treatment, which cannot be pushed in children with safety. To illustrate: we are now attending a case of diphtheria, the subject of which was vomited and then placed on veratrum, with good effect; but the disease again began to progress, perhaps because the veratrum was not well borne. We then gave, as there was a great amount of local and general pain, a large Dovers Powder and  $\frac{1}{4}$  gr. of Morph. Sulph. This promoted Diaphoresis, soothed the nervous and arterial systems, arrested the disease, and gave nature the ascendancy.

ZANESVILLE, O.

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### *Thirty-two Years Utero-Gestation.*

DR. HAMILTON—*Dear Sir:* In compliance with a verbal request I will state a few *facts* in regard to the case of Mrs. R——, to whom you were once called for the purpose of examination, and, if thought expedient, to operate for a pelvic tumor.

This patient came into my hands in May, 1860; and I will give you as much of her history as I have been able to get from her and her friends. She was of German descent, and at this time sixty-two years old; tall, and very much emaciated. Temperament—nervo-bilious. Had evidently once possessed an iron constitution. She had been married twice, and had one child by her first husband. At the age of thirty, while living with her second husband, in an attempt to walk in the dark, she accidentally fell, striking the lower part of her abdomen transversely on a stick of hewn timber.

In consequence of this fall a severe inflammation intervened in

that part of the abdomen. A young physician was called, who, after attending several months, discovered quickening, and pronounced her *enciente*. Illness continued; and at the supposed full term of utero-gestation she frequently had severe labor pains, and would send for her physician and other attendants, but to no purpose. Lactation was established at the period when it was supposed utero-gestation should have been completed.

At this time it was thought advisable to change her physician, and, to use the patient's own words, "called an old Doctor," who pronounced the case one of dropsy of the womb, and commenced treatment accordingly. At this time there was a constant and copious discharge per vagina, resembling beef brine, with an exceedingly offensive odor. The abdomen began gradually to diminish in size, and the treatment for dropsy was continued for about one year.

After the illness had continued about two years, her general health began gradually to improve. The secretive functions of the uterus soon became re-established, and continued in a healthy condition until she was forty-eight years of age, when menstruation ceased altogether. She continued to enjoy comfortable health, with a few exceptions, till the age of sixty. At this time her suffering became great, and almost constant. During twenty months (or about that time, not positive) of this her last illness, she passed through the hands of several reputable physicians, none of whom had succeeded in diagnosing her case.

On my first visit I found her complaining of constant nausea, frequent vomiting, anorexia, constant wakefulness, and an unceasing desire to urinate; at every attempt of which she was compelled to inflate her lungs and hold her breath, as if in the last throes of labor. Her screams and lamentations were so heart-rending that they were too much even for a physician to endure. She would beg to have something given that would relieve her sufferings, or put an end to her existence. Pulse 80, with some irregularity; tongue, clean; abdomen somewhat enlarged, with a hard, uneven surface, but too tender to admit of a satisfactory examination; could not endure an examination per vagina; prolapsus ani would follow every effort to urinate; a small amount of *fœcal* matter, with blood and mucus, was passed.

At this stage she showed me some little curiosities which she said passed with her urine, which I immediately recognized as

small bones and spicula of foetal bones. Treatment consisted of such medicines as would relieve pain most *effectually*; for, by experience, it was ascertained that all others were of no avail. As the case progressed, she gradually sunk, and in September last died—one of the most heart-rending objects of pity I ever saw. Thus closes this sad picture of female suffering.

A post mortem examination, in which Drs. Welch, Longwell, Morrison, and Cherry, of this place participated, revealed the fact that the womb contained a large portion of the bones of a foetus. The soft parts of the child had nearly all passed away by decomposition; some through the os tincæ while it remained open, and some by absorption.

There were extensive adhesions of the uterus to the lower portion of the small intestines. Latterly, it was adhered to the pelvis; anteriorly, to the bladder, through the walls of which there was an opening, caused by ulceration, about five-eighths of an inch in diameter, through which the small bones were passing into the bladder. The os tincæ being closed, the womb and the bladder became common receptacles for urine, foetal bones and calculi. Judging from the time of quickening, the patient could only have been pregnant a short time when the accident occurred.

Thus it will be seen that Mrs. K—— carried her burden about thirty-two years. Two years in the commencement and two years in the conclusion were attended with great, even *extreme* suffering.

J. H. WHITE.

DELAWARE, *February* 15, 1861.

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*Necrosis.* A report of five cases with operations occurring in Prof. Hamilton's Clinic at Starling Medical College. Reported by P. A. WILLIS, M.D.

*Case 1.* A colored man, D., aged 22, from Pleasant Valley, Union county, Ohio, was subjected to operation in November last. Six years previously had received an injury on left humerus, which resulted in acute osteitis and death of the bone. There had been more or less discharge ever since, and impaired usefulness, amounting at times to entire loss of the use of that limb.

When presented at the clinic, his health was very much impaired. The humerus was greatly enlarged, and there were three



openings; one about two inches above the elbow-joint, on the anterior aspect; one about the junction of the upper with the middle third; and the third on the posterior aspect, nearly midway between the others. The case was diagnosed as central necrosis. Prof. Hamilton commenced the operation by making a free incision, on anterior aspect, some eight inches in length, exposing the bone freely. The sequestrum was found deeply imbedded in the center of the expanded original bone, which was nearly three-fourths of an inch in thickness, and almost as hard as ivory. This bone was cut through with a small trephine, and the interspaces removed by splitting out with chisels. In this manner the sequestrum was exposed, and found to be five inches in length, of rough, irregular shape, and sufficient to account for all the trouble. The operation was protracted and difficult, owing to the hardness of the bone; almost defying any means brought to bear for its removal. Notwithstanding the extent and severity of the operation, the wound healed kindly, and the patient is at the present time entirely well.

*Case 2.* Mr. McC., of South Charleston, Clark county, aged 20 years, of naturally robust constitution and good health, was subjected to operation January 22d. Six years previously had been bitten on the leg by a dog, which caused acute osteitis of the tibia, and from this resulted central necrosis.

A good share of the time since he received the injury, he had been obliged to use crutches. When presented at the clinic, the tibia was found very much enlarged and thickened, and several sinuses opened on the surface at different points on the anterior aspect.

The operation proceeded as follows:—A free incision, eight inches in length, was made over the anterior aspect of the tibia, and the flesh dissected back on each side, exposing a large surface of bone, which entirely covered the sequestra. A mortise was then made with trephine and chisels through this bone six inches long, three-fourths of an inch broad, and fully an inch in depth. This shell of bone was exceedingly hard; almost baffling the utmost endeavors to remove it. At the bottom of the mortise were found several small sequestra, and one of some size; but none of as large size as in the first case, although the effects had been much more serious.

The operation lasted an hour and twenty minutes, owing to the difficulty which attended the removal of the shell of bone which

enclosed the sequestra. The patient returned home in three days, with every prospect of a permanent cure, as a result of the operation.

*Case 3.* Mr. J., of Ironton, O., sixteen years previously had sub-acute ostitis of the lower portion of left femur, and following this suppuration and the opening of three sinuses, two on the inner side of the leg, two and a half inches apart, and the third on the outside. There has been continual discharge from these openings ever since, draining the patient's system, and rendering him unfit for active life. The limb, in this region, was enlarged, and there was some stiffness in the knee joint. An incision was made, connecting the two sinuses on the inner side, and with great care carried down through the deep tissues which were found much condensed. An external sequestrum was found covered in by a shell of substitute bone, which was removed with some difficulty. The sequestrum was three inches long, half an inch wide, and of rough, irregular shape. Extreme caution was required in cutting, in order to avoid dividing the large vessels and nerves which lay in close proximity to the line of the incision, and which were so glued down in the condensed tissues as to make it impossible to avoid them by the ordinary anatomical guides. The external sinus was, also, enlarged, and a small sequestrum removed which lay on the outside of the femur. This had evidently been carried to its position through a sinus which extended from the larger sequestrum beneath the bone to the outside of the limb, as no disease could be found in the bone corresponding to its new position. The patient returned to his home two days after the operation, with a fair prospect of recovery.

*Case 4.* George A., of Franklin county, aged 15; operation made February 12. Sixteen months previously was attacked with pain and swelling above right knee joint, and extending some distance up the thigh. These symptoms continued more or less severe for about a year, and finally resulted in suppuration and an external opening three inches above the joint in the external aspect of the thigh. There had been continuous discharge from this opening ever since, and, as a consequence, a gradual decline in the patient's health.

A few weeks previous to the operation, Prof. Hamilton directed the sinus should be enlarged with plugs of dried elm bark, hoping that the sequestrum would escape through it; and a small piece did

escape, but the discharge continued, showing that the cause of irritation was still there. The probe, also, gave evidence of a large sequestrum, which could be removed only by an operation. A free incision was made through the external parts, revealing a large external sequestrum, which was easily removed, not being surrounded, as in the other cases, by peripheral or substitute bone.

The tissues surrounding the necrosed bone were very much condensed, and there would in all probability have been a shell of living bone deposited around it, had the operation been long delayed.

This is the great advantage occurring from an early operation.

The piece of dead bone was three inches in length, of considerable breadth, and very irregular and rough.

*Case 5.* Byron B., of Dublin, Franklin county, aged 13 years; operation performed February 16. In September last he fell from a tree, striking on his right hand, producing, as it was thought at the time, a trifling injury.

Two days after he was attacked with severe pain and swelling in the fore-arm, which soon extended to the arm and body. This acute stage lasted several weeks, and resulted in suppuration and the opening of several sinuses on the radial side. The inflammation and swelling finally subsided, leaving three sinuses; one on the palmar aspect and two on dorsal aspect of the limb. From these sinuses pus had continued to discharge, and two small pieces of dead bone had also escaped through one of them.

When presented at the clinic on February 15th, the radius appeared much enlarged; there was a sinus at the junction of the epiphysis with the diaphysis, into which a probe passed almost the whole diameter of the limb, encountering dead bone the whole course, showing entire separation of the head of the bone.

Another sinus appeared at about the junction of the middle with the upper third, in which the probe detected dead bone.

A free incision was made on the dorsal aspect connecting the two sinuses, and the external parts dissected back freely, exposing the shell of substitute bone. This was removed with trephine and chisel with but little difficulty, and several small sequestra removed.

The spongy part of the bone had been destroyed by caries. This was thoroughly exposed and scooped away. The epiphysis was found entirely separate and healthy, but the shaft was destroyed to a large extent. The boy is doing well, and has every prospect of recovering with a perfect limb, with the exception that, owing



to the necessity of handling the extensor muscles pretty roughly, there will probably be impaired extension of the thumb.

The different conditions in which the parts were found in these cases, impresses the importance of early surgical interference, as soon as the inflammation and swelling have subsided and the dead bone is separated from the living. As long as the dead bone remains, it is a foreign body, and will produce more or less irritation, keeping up the discharge indefinitely. The irritation and discharge tend to weaken and depress the tone of the system, and in a majority of cases eventually greatly impair, if they do not destroy, the functions of the part implicated. The dead bone, by remaining, renders the process by which nature intends to repair the breach entirely futile; whereas, if it is removed at an early stage, she will do her work promptly and perfectly. In a large majority of cases, where an operation is performed early, the part will be restored to its original usefulness.

In the course of the late term of lectures, a very large number of these cases were presented. We report only the more striking ones.

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### *Medical Topography of Atchison City, Kansas.*

Lat. North, 39° 30'. Long. West, 94° 56'.

The town site of Atchison occupies a group of bluffs and a strip of table land dividing them. This latter has an average width of one quarter of a mile, and extends back from the river a distance of one mile, where it becomes a mere ravine. Clay Creek, a small stream fed by springs, flows through the south side of this interval, and empties into the Missouri River just below the center of the town. This flat or interval land may be regarded as the bottom land belonging to Clay Creek; but it is several feet above high water mark, and is never submerged. The country immediately around the city is high and bluff, as is nearly the whole of Kansas bordering the Missouri. A few miles westward from the river the country gradually loses its broken character, but does not become level. Above and below the city the bluffs are covered with timber—principally oak, walnut and hickory—some of it of good size; west is a high rolling prairie, with here and there a small patch of scrubby timber.

The hills or bluffs are composed of carboniferous limestone, covered with a rich soil varying in depth from one to six feet, which annually produces a luxuriant growth of herbaceous vegetation. There is no interval land between the bluffs and the river except the narrow strip mentioned. The city contains about thirty-five hundred inhabitants, who live principally in comfortable frame houses, built on the sides or summits of the hills; the business being confined to the low or flat land. On the east or Missouri side of the river, is a low bottom, varying in width from three to five miles, which is covered with a heavy growth of timber, principally cotton-wood. Swamps, lagoons and ponds are numerous; some, dignified with the name of *lake*, abound with fine fish, and from which our market is supplied. A number of farms have been opened on the higher portions of this bottom; the land when cultivated being highly productive. This bottom land has not been inundated since the great freshet in 1844, except in the lowest places, where no attempt has been made to cultivate it.

Immediately opposite Atchison, the land is somewhat more elevated, and entirely of an alluvial character. Here the town of Winthrop has been laid off; about fifty acres cleared; and here some forty families reside, principally of laborers who are employed in saw-mills in the neighborhood, of which there are several in operation. The town, on the north, east, and south, is walled in with a heavy growth of timber.

The physiology of the population of Atchison presents as great variety as one can well imagine in a town of its numbers. The first settlers were principally from Missouri and South Carolina, but now there is a predominance of Eastern people; but nearly every State of the Union has numerous representatives here. Its foreign population is large, proportionally; mostly Irish and Germans of the poorer classes.

*Water.*—The water of the Missouri River is always turbid, holding in suspension a large quantity of sand and earthy matter, but readily undergoing clarification, when allowed to stand in a vessel. I am not aware that it contains more organic or other matter in solution than the waters of other great rivers; although it is said to act as a laxative upon persons unaccustomed to its use. The absurd idea that alcoholic liquors counteract its baleful effects (?) is almost universally prevalent among those who travel by steamboat, and sales of immense quantities of brandy, gin and

whisky may be placed to the credit of the error. When settled or clarified, the water of the Missouri is without taste—a good evidence of its purity. Our spring water—of which we have a superabundance—issues from cracks or fissures in the limestone rocks which everywhere crop from the hill-sides, and of course holds in solution some of the salts of lime. It is transparent, and to persons accustomed to its use, perfectly tasteless. The water found in the neighborhood of the sandstone formations, does not differ from it in its sensible qualities. No chemical analysis has been made of either, but as the beds of the latter rock are limited, we would expect but little change in the water passing through them. Cistern water is much used in the elevated parts of the city, because of the difficulty of digging wells through the solid rock lying but little below the surface. For the same reason some of the cisterns are quite shallow, and in summer the water is of too high a temperature to be palatable, and when it stands a long time without accession, the carbonic acid gas, with which it becomes impregnated, renders it positively disagreeable. I have seen nothing to warrant the opinion that any water used by the citizens, is generative of disease. During the past season—one which will be long remembered for its famishing drouth—the cisterns and many wells and springs were dry, and a majority of our citizens were compelled to draw water from Clay Creek or the river. Yet it has been a season remarkable for health.

*Diseases.*—Intermittent fevers on the Kansas side of the river are unfrequent and easily managed. In the twenty months I have practiced in this city I have not met nor heard of a single case of quartan ague. Autumnal fevers of a remittent form prevail, but not to any great extent. During the past season their tendency was to continue, but almost universally terminated well, unless too actively treated. I have found that patients generally do better without mercury than with it. Sometimes a calomel purge in the commencement of the treatment has a happy effect. Fevers at all seasons have a tendency to put on the asthenic character, but more especially in the spring.

Typhoid, or enteric fever, is occasionally met with, but usually in a mild form. It has never prevailed here as an epidemic.

Bowel affections were prevalent last summer, principally among children. There was seldom any miasmatic influence manifested



in connection with them, and their tendency was to recover without treatment.

Puerperal fevers are not unfrequent, but yield readily to quinine and opium, given early, and in large doses. Venesection has a pernicious effect, and, in their treatment, the lancet is very properly discarded by the judicious practitioner.

Rheumatic affections are common among the best livers. Purgatives, colchicum and opium generally effect a cure. Muriate of ammonia, in large doses, I have found to have a happy effect in acute rheumatism.

Scrofulous affections among children are rare, probably owing to the fact that the atmosphere, though cold, is very dry, which is not so depressing in its effects as humid air of the same temperature.

Skin diseases are not unfrequent; those arising from syphilitic poison, most common. A disease, popularly called "prairiac itch," is often met with. It is a vesicular affection resembling scabies, and amenable to the same treatment. It differs from the latter affection in attacking every part of the body indiscriminately. Erysipelas is met with, but seldom of a phlegmonous character. It is generally mild and easily managed. In the spring of 1858, scarlatina or rosalia prevailed as an epidemic. It was of a malignant type, and quite fatal. But few cases have occurred since.

Diphtheria has not appeared here as an epidemic. I have seen only one well-marked case of it, which was contracted by a young married lady while on a visit to a neighborhood in Missouri where the disease was prevailing epidemically. The tonsils and anterior palate were covered with deciduous membrane. A strong solution of arg. nit. was applied, watery inhalations used, and a mild purgative administered. On the third day the membrane was wholly detached, and the patient soon recovered. Two or three cases of well-marked membranous croup have come to my knowledge: they were fatal.

Pneumonia, bronchitis and catarrhal fevers are seldom of a high or inflammatory grade. In these the lancet is inadmissible. A persistent course of mercury does injury. I rely principally upon purgatives, antimony and opium for their cure. Quinine and stimulants are almost universally called into requisition at some period of the treatment. Sinapisms and epispastics are material adjuvants.

Pulmonary consumption is rarely met with. The active life and habits of our population do not favor its development, more than

does our bracing and invigorating climate. On the other hand, a residence here has been known to arrest its development when in its incipiency. A trip across the plains, from the Missouri to the Pike's Peak country, has had the same effect. The labor of travel, hard beds, rough fare, and out-door exposure, have given to many a pale, emaciated consumptive, brawny arms and ruddy cheeks; while the same course has hastened the death of others, who had been too long a prey to the ravages of the disease.

Recoveries from injuries and operations are rapid; owing in part to the salubrity of our climate, and in part to the fact that the subjects are seldom persons of vitiated habits and broken down constitutions. The same causes are of equal force in recoveries from diseases which are medicable. The proportional mortality of a given number of serious injuries, operations, or diseases, is comparatively small, allowing a reasonable degree of skill to be displayed in their treatment.

On the opposite side of the river, in the Missouri bottom, intermittent and remittent fevers are very prevalent, and are often of a malignant type. Almost all the diseases there are of miasmatic origin, or are more or less influenced by malaria, and require the anti-periodic for their cure.

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## American and Foreign Intelligence.

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*Lectures on the Diagnosis and Treatment of the principal forms of Paralysis of the Lower Extremities.* By Dr. C. E. BROWN-SEQUARD. (Lancet, from August 31st to November 10th, 1860.)

The principal object of these admirable lectures is to point out the characteristic features of that paralysis of the lower limbs which is due to an excitation proceeding to the spinal cord from a sensitive nerve, and which is known as *reflex paraplegia*, and to show that this form of the disease requires a plan of treatment which differs very materially from that which is required in paraplegia deriving its origin from primary mischief in the cord itself.

The absence of the special symptoms of an organic disease of the spine or its contents, and the existence of an incomplete paralysis of the lower limbs that has appeared somewhat slowly after a disease of the urinary or genital organs, or of some other abdominal viscus, after an inflammation of the lungs or pleuræ, or after

some kind of irritation of a nerve in its trunk or in its cutaneous ramifications, are the general characteristics of *reflex paraplegia*. Most commonly the centripetal irritation of the afferent nerve, which is the *origo mali*, may be traced from the bladder or genital organs; but the cases given show very clearly that it may proceed from very different parts—from, in fact, any organ or any part. Dr. Brown-Séguard considers it possible, if not probable, that the centripetal irritation in the nerve produces a reflex contraction in the blood-vessels of the spinal cord, and that the paralysis is brought about by the failure of nutrition in the cord which follows this condition of the vessels. He believes, indeed, that there is an anæmic condition in the part of the cord concerned—a condition which is the very opposite of that which obtains in the case where congestion of the cord and its membranes, or inflammation of the spinal meninges, or inflammation of the cord itself, is the cause of the paraplegic symptoms. In 144 cases of paraplegic, 42 were cases of myelitis, 33 of white softening, 25 of *reflex paraplegia*, 12 of congestion, 9 of tumor, or pressure upon the cord, 7 of spinal meningitis, 7 of hæmorrhage, 5 of hæmorrhage followed by myelitis, and 4 of hysterical paraplegia; hence reflex paraplegia is a sufficiently common form of the disease. It appears, also, from these statistics, that, with the exception of the last-named form, men are much more frequently paralyzed in their lower limbs than women.

In order to have a clear idea of the characteristics of the different forms of paraplegia, it would be well to follow Dr. Brown-Séguard, step by step, in his masterly account of each form; but it must serve our purpose (our space admitting no other course) to take the shorter plan of considering each of the most important symptoms, and showing to what form of paralysis it is especially attached, and what is its cause—a comparison which is done for us by the author himself, and which cannot be improved or abridged.

“1st. *Cramps, twitchings, and other convulsions*.—The signification of tonic or clonic convulsions in paralyzed muscles, in cases of paraplegia, is quite evident; they are incontestible results of an irritation of either the anterior roots of the spinal nerves, the spinal cord, or the sensitive nerves in any part of their length, through a reflex action. In cases of myelitis it is chiefly under the form of cramps that convulsions occur; the frequency of these spasms is one of the characteristics of this affection. In cases of tumors pressing upon the spinal cord, especially upon its posterior surface, cramps are not so frequent as twitchings, or a general spasm producing a drawing up of the lower limbs, which sometimes remains permanently in a state of spasmodic flexion. In cases of chronic meningitis, or congestion of the spinal cord or its membranes, twitchings are more frequent than cramps. In cases of reflex paraplegia, the external irritation that produces the paralysis sometimes produces also spasmodic movements by a reflex action. Especially in those cases where the rectum or the urethra are the parts from which starts the irritation, there is what the patient



calls a *catchiness* or a drawing up of the legs. In cases of hæmorrhage in the spinal canal, tetanic convulsions are frequently observed. Rigid spasms of the muscles of the back are amongst the most prominent symptoms of spinal meningitis. Amongst the affections of the spinal cord that produce paraplegia, one of the most frequent—the non-inflammatory or white softening—is characterized by a total absence of cramps, twitchings, or other convulsions.

“On the whole, some form of morbid muscular contractions exists constantly in myelitis or spinal meningitis, and frequently in cases of congestion of the spinal cord or its membranes, or of tumors or other cause of pressure upon the spinal cord, and also sometimes, (by a reflex action,) in cases of reflex paraplegia. On the other hand, a complete absence of morbid contractions will be observed in all cases of non-inflammatory softening, and in the majority of cases of reflex paraplegia,

“2d. *Referred sensations in the paralyzed limbs.*—These morbid sensations, like morbid contractions, are the results of some kind of irritation, and the vital properties of the spinal cord changing when it is inflamed, these sensations may be produced by an inflammation of the gray matter. The various kinds of conductors passing through or along the gray matter being then irritated, give origin to all kinds of sensations which are *referred* to the various parts of the lower limbs. Sensations of cold or of heat, of touch, (formication, tickling, pressure, tightness, &c.,) of pain, (pins and needles,) and also sensations arising from muscles, and giving the idea that the limbs are in a different position from that in which they really are; in fact, all the sensations that pressure or some other cause of irritation may produce, when applied to the ulnar or the sciatic nerves, are often observed. In myelitis, some of these sensations always exist; in meningitis, or where there is simply a congestion of the spinal membranes, most of them are also observed, but less intense than in myelitis. In cases of irritation of the posterior roots of nerves by a tumor or a displaced bone, &c., referred sensations exist also. In such cases of irritation by a tumor, &c., and also in cases of congestion or meningitis, there is a feature which distinguishes these affections from myelitis; it is that in this last affection there may be a reference of sensations to all parts of the body that receive their nerves from the part of the spinal cord which is below the upper limit of the inflammation, while in the three other affections the sensations are referred only to those parts of the body which receive their nerves from the part of the spinal cord at the level of the seat of the irritation. The non-inflammatory softening, hæmorrhage, or a tumor in the gray matter, (as long as they do not produce inflammation,) and also the reflex paraplegia, are characterized by the absence of referred sensation.

“3d. *Feeling of tightness round the body, or round the lower limbs.*—This sensation, which is so frequent in myelitis, exists also sometimes in cases of tumors, of congestion of the spinal cord, and in meningitis. It is absent in cases of non-inflammatory softening

and in reflex paraplegia.\* From this last fact it results that the tightness across the chest or the abdomen, at the level of the upper limit of the paralysis, does not depend, as has been said, upon the efforts made in moving the paralyzed parts by the non-paralyzed muscles just above them. Another objection to this explanation is, that the same feeling which exists around the body exists also, sometimes, around the lower limbs, in myelitis. This most probable mode of the production of this strange feeling is, that it is due to some irritation of sensitive nerve fibres in the spinal canal producing a sensation referred to the periphery of the body (abdomen, chest or limbs).

4th. *Alterations in the nutrition of paralyzed parts.*—These alterations chiefly depend upon an irritation of the spinal cord or its nerves. It is principally in myelitis that they are observed. A rapid wasting of the paralyzed muscles, the production of bullæ or sloughs over the sacrum, the nates, &c., are the most frequent results of an irritation of the vaso-motor, or of the other nerves that have an influence upon the nutrition of the lower half of the body. These alterations are not observed in cases of reflex paraplegia, or of non-inflammatory softening of the spinal cord; neither do they exist in cases of hæmorrhage, or of a tumor in the gray matter, unless the inflammation is produced.

“5th. *Erection of the penis.*—This is another symptom showing an irritation of the spinal cord or its nerves. It exists frequently at night, and sometimes in the daytime, in cases of myelitis or congestion of the spinal meninges. It is also observed, but less frequently, in cases of meningitis, of tumor upon the spinal cord, of hæmorrhage in the spinal canal (outside of the cord), and sometimes even in the reflex paraplegia, but then only on the introduction of a catheter or in consequence of some peripheric irritation. This symptom does not exist in cases of non-inflammatory softening, or of hæmorrhage, or a tumor in the gray matter of the spinal cord.

“6th. *Temperature of the paralyzed lower limbs.*—In those affections in which there is an irritation of the spinal cord or its membranes (congestion, myelitis, meningitis, pressure on the cord by effused blood, tumor, or a displaced bone, &c.) the lower limbs, and especially the feet, are almost constantly very cold. This symptom is the consequence of the irritation of the vaso-motor nerves, which produces a contraction of the muscular fibres of blood-vessels, just as the irritation of the nerves of the muscles of the legs, feet, &c., produces cramps, twitchings, &c. In the reflex paraplegia the feet are also sometimes very cold, in consequence of a reflex contraction of their blood-vessels. In cases of non-inflam-

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“\* I need not say that this symptom, as well as many others depending upon a degree of irritation of the spinal cord or its nerves, will be observed in cases of reflex paraplegia, or of non-inflammatory softening of the spinal cord, if in those cases there is some degree of congestion in the membranes or in the cord above the softened part, or that which causes the reflex paralysis.”

matory softening of the lumbar enlargement of the spinal cord, with a complete destruction of the vital properties of this part, the lower limbs are almost constantly very warm, as a result of the paralysis of the vaso-motor nerves.

“7th. *Degree and extent of paralysis of the lower limbs, the bladder, and the rectum.*—Of course great differences exist as regards the degree and extent of the paralysis, according to the degree and extent of the alterations in the spinal cord. We do not intend entering into any details on this subject. We wish only to say here that—1st. As regards the *mode of appearance of the paraplegia*, if it be sudden it is almost always due to hæmorrhage either in the cord or outside of it; 2d. As regards *the degree of the paralysis*, it is equal in all the muscles of the lower limbs, if the alteration occupies the whole of the lumbar enlargement, or is above it, except in cases of reflex paraplegia, where some muscles may be much more affected than others; 3d. As regards *the changes in the degree and extent of the paralysis*, they are rapid and frequent in cases of reflex paraplegia, of chronic meningitis with effusion, and of spinal congestion, while, on the contrary, they are slow and rare in cases of myelitis, tumors, and non-inflammatory softening; 4th. As regards *the paralysis of the bladder and of the rectum*, they exist more frequently in cases of myelitis, of non-inflammatory softening, or of hæmorrhage in the gray matter, than in the reflex paraplegia, or in cases of tumor, of congestion or even of meningitis.

“8th. *Anæsthesia and Hyperæsthesia.*—Myelitis existing most frequently in the gray matter, anæsthesia (the different kinds of it, with the loss of the power of guiding the voluntary movements) is one of the ordinary symptoms of this affection. This symptom is less frequent or less intense in most other cases of paraplegia, except, of course, a hæmorrhage in the gray matter. As regards hyperæsthesia—*i. e.*, a morbidly increased insensibility—it is frequent in cases of incomplete paraplegia, when the posterior columns of the spinal cord, in a small part of their length, are destroyed, either by a tumor, or by a softening (inflammatory or not).

“9th. *Reflex power.*—In all cases of paraplegia, in which the lumbar enlargement of the spinal cord remains uninjured, the reflex power of that enlargement increases notably. On the contrary, the reverse is observed in cases of alteration of this enlargement.”

In a therapeutical point of view the principal object of these lectures is to point out the cases of paraplegia in which strychnia or belladonna, or ergot of rye, are to be employed or avoided. According to the author, the various forms of the disease may be classed into two general groups: one in which the amount of blood circulating in the spinal cord is too considerable, and where mercury, ergot, and belladonna are required, because these remedies are supposed to have the power of diminishing the quantity of blood in the spinal cord; another, when the opposite condition of vascularity obtains, and where strychnia is called for, because strychnia is supposed to have the power of increasing the vascularity of the cord.



The treatment of *reflex paraplegia* is divided into—1st. The means to be employed against the external cause of the affection; and 2d. The treatment of the paralysis itself. Dr. Brown-Séquard proceeds:

“As regards the first part, we will say nothing here, as we can not enter into the details of the treatment of nephritis, cystitis, pneumonia, enteritis, and other morbid states that may cause a reflex paraplegia. As regards the direct treatment of this affection, we will first lay down the general rules of the treatment, and then we will enter into the most important details concerning this treatment.

“1. When it has been ascertained from what organ or from what nerve starts the nervous influence which causes a reflex paraplegia, besides the treatment that is appropriated to the nature of the local affection (of that organ or nerve,) it is of the greatest importance to try to prevent or to diminish the transmission of any nervous influence from the diseased nerve or organ to the spinal cord. All the means usually employed to alleviate pain will be of service in such cases. If possible, we must try to paralyze for a time the sensitive nerves that convey the morbid influence to the spinal cord. Even a momentary suspension or diminution of the transmission of this influence may be very useful. Narcotics ought to be employed in injections,—in the bladder, if that organ be the place from which starts that morbid influence; in the vagina, if the uterus be the place; and in the rectum, if the large intestine be the place. Narcotics ought to be taken by the mouth, if the stomach, the small intestine, or the kidneys are affected. In case of a pneumonia producing a reflex paralysis, inhalations of chloroform (which, by the way, have been successfully employed against the inflammation itself,) may prove useful. We will say, by-and-by, what narcotics should be preferred.

“2. The object of the means just proposed is to diminish the cause of the paraplegia; the object of the means we will now speak of is just the same, although it may seem to be quite different. Excitants or revulsives applied to the skin of the legs have been warmly recommended by Graves, who has obtained good results from their use. Probably the mode of action of these means consists in producing for a short time the same effect as the irritation which is the cause of the paralysis—*i. e.*, a contraction of the blood-vessels of the spinal cord; but, according to a well-established law, if such a contraction becomes considerable, the muscular fibres are soon exhausted, and a relaxation of the contracted fibres takes place, and, as a consequence of this relaxation, a dilatation of the blood-vessels occurs. Of all the causes of irritation capable of producing a contraction of blood-vessels by a reflex action, none has more power than cold. In consequence of the fact, I think some of the modes of application of cold to the spine ought to be employed in cases of reflex paraplegia. But the excitation in those cases must be very powerful, and able to produce a very considerable degree of contraction, so that the consequent exhaustion

and dilatation may be obtained. With the same view, we may employ a very powerful excitation of the skin along the spine, by interrupted currents.

“3. Another important principle, or rather another part of the same general principle of treatment, consists in making use of the following means to increase the quantity of blood in the spinal cord: Every night, and often in the course of the day, the patient should lie down on his back, placing his head, his arms, and his legs on high pillows, so as to produce by gravitation a congestion in the spinal cord. This simple means, which is also applicable in cases of hysterical paraplegia and in almost all cases in which there is an insufficient amount of blood in the spinal cord, is just the reverse of what should be done in cases of inflammation or congestion of the spinal cord or its membranes, or of disease of the spine, &c., in which cases the patient ought to lie flat on the abdomen or on one side of the body, and have his feet and hands on a much lower level than that of the spine.

“4. As regards the remedies to be taken by patients attacked with a reflex paraplegia, they must essentially be those which increase the amount of blood in the spinal cord, and augment the vital properties of this nervous centre, and also those remedies which render the blood richer in nutritive principles. We will soon indicate which are the best of these various remedies.

“5. As regards food and the hygienic rules, patients attacked with a reflex paraplegia must have the most substantial aliments, so as to improve the deficient nutrition of the spinal cord. They must take a great deal of exercise in the open air, and especially make use, as much as possible, of the paralyzed muscles.”

Entering into detail, and speaking of the means for diminishing the external irritation, our author says:

“No narcotic is more powerful than belladonna locally employed to diminish pain or to prevent a reflex action. Unfortunately, for reasons that will be fully developed in the next lecture, it would be very unwise to make a constant use of belladonna in cases of reflex paraplegia. In cases of disease of the urethra or the prostate, an injection of a solution of one grain of the extract of belladonna, in twenty drops of laudanum, is to be made into the urethra, and the injection should be retained half an hour, or even an hour, after which some emollient decoction should be employed to wash away the rest of the narcotics. Every two or three days the same operation should be repeated. In the intervening days, I advise the use of an injection of thirty drops of laudanum, without belladonna. In cases of a disease of the bladder, I recommend the use of an injection into the bladder of a solution of one grain of the extract of belladonna, in twenty drops of laudanum, just after a complete emission of urine. One day this injection is employed, and the next day twenty-five or thirty drops of laudanum alone are injected. When the prostate is very much enlarged, a suppository, covered with a belladonna and opium ointment, ought to be put, at times, in the rectum.

"When the irritation that causes a reflex paraplegia starts from the vagina or the uterus, a pill of half a grain of extract of belladonna with one grain of extract of opium, surrounded by a piece of cotton wool, is introduced far into the vagina, and even up to the neck of the uterus. By means of a thread attached to the cotton, it is withdrawn as soon as the pain has ceased or much diminished. This simple means I have seen often employed with benefit by my learned teacher, Professor Trousseau, in painful affections of the womb, and I have myself made use of it with great advantage in two cases of reflex paraplegia and in several cases of hysterical paralysis.

"In cases of a reflex paraplegia due to dysentery, colities, or other morbid irritations of the large intestine, accompanied by diarrhœa, opium alone—*i. e.*, without belladonna—should be employed in enemata. In cases of paraplegia due to teething, if it co-exists with enteritis, as it often does, opium is the narcotic to be employed, and it should then be taken by the mouth in very small but repeated doses. In cases of neuralgia producing a paraplegia, the narcotic that should be chiefly employed to relieve pain is opium, and so also in cases of paraplegia due to a disease of the stomach, the liver, the kidneys, the pleuræ; but even in all these cases, belladonna may be used with profit if united with opium, if it is not often employed, and especially if strychnine is also used at the same time. I could not insist enough upon the importance of the necessity of never using belladonna without employing at the same time strychnine and opium, or at least strychnine, in cases of reflex paraplegia. I must repeat also that in this affection, when belladonna is employed, its use ought not to be a constant one; and, if the patients are not very costive, opium ought always to be the principal narcotic used to alleviate the external irritation that causes the paralysis."

The means for increasing the nutrition of the spinal cord are classed in two groups—the medicinal and the physical. In the first group, sulphur, particularly in the form of baths containing sulphuret of potassa, is mentioned as a means which may do good. But strychnine is put forth as the remedy *par excellence*. "It is generally believed," says Dr. Brown-Séquard, "that strychnine acts on the spinal cord as an excitant—*i. e.*, in the same way as the application of galvanism, of heat, of a caustic, or a mechanical irritation. This is a great error; strychnine is not able to produce the least excitation on the spinal cord. The experiments of Van Deen, of Dr. Marshall Hall, those I made ten years ago, alone, or with my pupil, Dr. Bonnefin, and those recently published by M. Martin-Magron and M. Buisson, in their most important paper, 'On the Comparative Action of Woorara and Strychnine,' cannot leave the least doubt on this point. It is only in increasing the reflex faculty of the spinal cord that strychnine seems to cause convulsions. This vital property of the cord reaches such a very high degree, that any external or internal excitation brings on a reflex tetanic contraction, the violence of which, according to a well-



known law, is in proportion to the degree of the reflex faculty. So long as the spinal cord does not receive some kind of excitation, however powerfully poisoned by strychnine it may be, there is no convulsion. I have seen frogs, deprived of respiratory and voluntary movements (after the extirpation of the brain and the medulla oblongata,) remaining hours, days, and even a week, without the least convulsion so long as they were not touched, although they were poisoned by a large dose of strychnine; but the least touch produced in them the most powerful reflex tetanic spasms.

“How does strychnine act to produce this augmentation in the vital property of the spinal cord? In two distinct ways—1st, in increasing the amount of blood in the spinal cord; 2dly, in acting in a special and direct manner on the tissue of the cord. As regards the first mode of action, we shall only state here that it is a positive fact that the quantity of blood circulating in the spinal cord is very much increased, and that consequently its nutrition is also increased. As regards the second mode of action, the admirable researches of MM. Martin-Magron and Buisson have established beyond doubt that even when the spinal cord does not contain any blood, strychnine directly applied upon, or in that organ, increases so much of its vital property that reflex tetanic spasms may be produced.

“These two modes of action of strychnine explain how this alkaloid acts in cases of reflex paraplegia. The amount of blood in the spinal cord, and the reflex faculty of this organ, are very much diminished in this affection. Therefore, strychnine must have a great curative power in such a malady, and it must be employed with persistence so long as the paraplegia lasts. The teachings of theory in this respect agree perfectly with those of practice, as there are a great many cases observed by others or by myself, which I might relate, to show the therapeutical power of strychnine in the reflex paraplegia.

“When used together with opium, the dose of strychnine must be a small one—*i. e.*, from one-fortieth to one-thirtieth of a grain a day. When used alone, its dose may be one-twentieth of a grain a day. When employed together with belladonna, the dose must be larger on account of the antagonistic action of belladonna on the spinal cord.”

The chief mechanical means for improving the nutrition of the cord are the position which has been described,—the application of heat and cold alternately, either by means of two sponges, one soaked in very hot, and the other in very cold water, or by flapping with a towel, one end of which has been dipped in cold, and the other in very hot water,—and the powerful excitation of the skin along the spine by interrupted currents. Applications of croton oil, of mustard poultices, of blisters, &c., to the skin of the thigh or calf of the leg are said to be frequently beneficial in the treatment of paraplegia, but revulsives, issues, &c., applied on or near the spine, are condemned as useless.

Galvanism, shampooing, keeping the paralyzed parts warm, and

attempts on the part of the patient to recall voluntary motion to these parts, are the chief means recommended for preventing the ill-effects of rest in the paralytic muscles and nerves.

— We have left ourselves little room for any reference to the treatment of myelitis, of spinal meningitis, and of spinal congestion; but we must not omit to notice what is said about the use of belladonna and ergot of rye in these affections.

“ Amongst the remedies to be employed internally, the most active,” says Dr. Brown-Séquard, “ are those which have the power of diminishing the congestion of the spinal cord. The two which seems most powerful in this respect are belladonna and ergot of rye. Experiments upon animals have shown to me, in the most positive manner, that these two remedies are powerful excitants of unstripped muscular fibres, in blood-vessels, in the uterus, in the bowels, in the iris, &c. Both of them dilate the pupil; both are employed with success to produce contractions of the uterus; but each of them has more power in certain parts than the other, so that we find belladonna acting more than ergot on the blood-vessels of the iris (which is the principal cause of the dilatation of the pupil)—on the blood-vessels of the breast (which is the principal cause of the cessation of the secretion of milk—on the muscular fibres of the bowels (which is the mode of its action in cases of strangled hernia)—on the sphincter of the bladder (which is one of the causes of its success against nocturnal incontinence of urine,) &c.; while, on the contrary, we find that ergot acts more than belladonna on the muscular fibres of the womb, on the blood-vessels of the spinal cord, &c. We cannot give here the proof, the exactitude of these assertions on the mode of action of these two remedies, but we must at least answer an objection which probably will arise in the mind of many persons. It will be asked—How is it that, of two remedies that are able to excite contractions in smooth muscular fibres, one produces them more in one place, and the other more in another place? The answer to this objection is indeed very simple. The excitability of smooth fibres, as well as that of striated muscles, varies exceedingly in different parts of the body. An exciting agent (whether galvanism, cold, heat, or belladonna and ergot of rye,) will produce powerful contraction in some places, and hardly any in other places. The smooth fibres of the uterus contract more than those of the bowels or bladder, and less than those of certain blood-vessels when stimulated by galvanism; the smooth fibres of certain blood-vessels contract more than those of the uterus under the excitation of cold; still more, the blood-vessels of the cerebral lobes and of the face, which contract so much when their nerve (the cervical sympathetic) is irritated, contract but very little when excited by belladonna and ergot, while these two excitants produce powerful contractions in the blood-vessels of the spinal cord.

“ Not only have I seen the diminution in the calibre of blood-vessels of the pia mater of the spinal cord taking place in dogs after they had taken large doses of belladonna or ergot of rye, but I have also ascertained that the reflex power of the spinal cord

(most likely as a consequence of the contraction of blood-vessels) becomes very much diminished under the influence of these two remedies, which in so doing act just in the opposite way to that of strychnine.

“Led by the knowledge of the above facts, we have employed belladonna and ergot of rye in cases of paraplegia due to a simple congestion or a chronic inflammation of the spinal cord and its meninges, and we have obtained a greater success than we had dared to hope for. Whatever be the value of our experiments on animals as regards the mode of action of these remedies, it is now certain that they have really a great power in diminishing the amount of blood in the spinal cord and its membranes. It is very well known that many French physicians, especially Bretonneau, Payan, Barbier and Trousseau, have for many years employed with success belladonna and ergot of rye in cases of paraplegia. Of course we do not claim to have been the first to make use of these remedies in paraplegia, any more than we claim priority as regards employing strychnine in various forms of paralysis. But we claim to have pointed out, as clearly as we could, in what cases of paraplegia strychnine or belladonna and ergot of rye are to be employed or avoided. To indicate this distinction is the principal object of these lectures.

“In the beginning of the treatment of chronic myelitis, we usually employ ergot of rye alone internally, and belladonna externally in a plaster applied to the spine, over the painful spot. The dose of ergot, when the powder is used, which is almost always the case, is at first two or three grains twice a day; gradually the dose is increased until it reaches five or six grains twice a day; and in a few cases we have given eight grains twice a day. We do not think it necessary to make use of the very large doses employed by M. Payan. The belladonna plaster applied to the spine must be a very large one, four inches wide, and six or seven inches long. If there is no amelioration in a few weeks, we give the extract of belladonna internally in doses of a quarter of a grain twice a day.

“When we find that the patients, after six or eight weeks of treatment by ergot of rye and belladonna, do not get better, we give iodide of potassium in doses of five or six grains twice a day, in addition to the preceding remedies. When there is any reason to suspect that there is a degree of meningitis together with myelitis, we begin at once the treatment by the iodide of potassium with the ergot and belladonna.”

A proper position in bed—on the side, perhaps on the abdomen, never on the back, the arms and legs kept warm by flannel bandages and other means, and allowed to hang lower than the trunk,—dry cupping to the spine,—hot douches followed by frictions—are recommended as likely to be of service; but strong revulsives to the spine are put out of court (except, perhaps, in cases of myelitis resulting from caries,) from the danger there is of their giving rise to troublesome sloughing.



Where the paraplegia is due to white softening, iodide of potassium is regarded as the remedy most deserving of confidence.

—Such appear to be some of the principal points of interest in these admirable lectures. For want of space, however, we have been obliged to omit many points which are necessary to give a fair idea of the lectures as a connected whole, and we therefore recommend all who have the opportunity to supply what we have been obliged to omit, by reading the lectures for themselves from beginning to end.—*Ranking's Abstract.*

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*On the best preservative from Hydrophobia.* By M. A. SAMSON.  
(Journ. of Pract. Med. and Surg., July, 1860.)

Struck with the inanity of the measures and means of all sorts proposed every year for diminishing the disastrous effects of rabies, Mr. Samson has thought that one means only exists of preserving us from this scourge—the knowledge of the exact cause of the insidious and little known phenomena of the beginning of this terrible affection. For this purpose it is indispensable to destroy certain errors prevalent among the public, and this is precisely the end Mr. Samson endeavors to attain.

And first, despite the word which designates it, rabies may exist for a certain time before any phenomenon of furor is manifest. In its earliest stage, the animal has no aversion to water, as he is supposed to have; he even often drinks with avidity. Now, what is his attitude? From the description of a learned English veterinary surgeon, Mr. Youatt, and from his personal observation, the author sketches with a masterly hand a graphic picture of the physiognomy and gait of a mad dog in the beginning of the disease. At this moment the animal retires to the kennel; *he shows no inclination to bite, and obeys*, although slowly, his master's voice. But his body is, as it were, contracted, and he hides his head between his chest and fore-feet. He then becomes restless, seeks a new place, returns to his litter, and moves about without being able to find a position that suits him; his appearance is gloomy and suspicious; he goes from one to another, as if to crave assistance, far from flying from his master's house. If he is of a mild and affectionate disposition, he remains caressing, perhaps more even than in health. In snarling and vicious animals only, the aspect becomes terrifying, and the eyes express ferocity.

An important phenomenon is again the depravity of the appetite; the animal eagerly seizing matters improper for nutritive purposes; also an intense thirst, which seems to proceed from inflammation of the fauces, and is often attributed to a mechanical cause, to a bone he may have swallowed, &c.

It is, however, at the last period only of the disease that the foaming at the mouth is seen, although this is popularly regarded

as an infallible sign of rabies. At an early stage, on the contrary, the mouth and throat are dry in consequence of the paralysis of the muscles of the pharynx, which succeeds the angina of rabies, the saliva, the deglutition of which is rendered impossible, mechanically flowing from the mouth.

But there is an unmistakable sign, which is never forgotten by those who have once heard it, it is the *howling of the rabid animal*. The voice of the mad dog undergoes a special modification, which conclusively points to the diagnosis. Nothing is more convincing than the following fact, related by Mr. Bouley :

"One Sunday, two pupils returning to the School (Veterinary) of Alfort, at nine o'clock in the evening, heard the howling peculiar to rabies, which proceeded from a watch-dog in a neighboring house. They hastened to apprise its master of the impending danger. Fortunately the dog was still chained up, and was not released that night. On the following morning he was taken to the school, and pronounced to be rabid, to the great astonishment of its owner, who could not believe that this animal, *still as docile, as caressing and obedient* as in health, was attacked with so terrible a disease. The presence of mind of these pupils doubtless prevented great misfortunes; had it not been for their interposition, this dog, which was of a large size, would have been let loose, perhaps have escaped, and might have occasioned many accidents in the surrounding country."

In this instance, the diagnosis reposed on the mere sound of the voice, and was accurate. Mr. Samson, then a pupil of the school, saw, some days after, the same dog die with all the symptoms of rabies.—*Ranking's Abstract*.

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*On Diphtheritic Paralysis.* By Professor TROUSSEAU. (Gaz. des Hospitiaux, Nos. 1-5, 1860; Med. Times and Gazette, July 28, 1860.)

The following are some of the observations made by M. Trousseau, during a clinical lecture delivered at the Hôtel-Dieu.

The subject of the lecture was a woman, who, having been recently confined, contracted diphtheria from a patient in a neighboring bed. Alum insufflations and applications of hydrochloric acid were resorted to, with the effect of removing all diphtheritic exudation. Already on the tenth day, however, she spoke markedly through the nose, and deglutition was very difficult, and accompanied by nasal regurgitation. A notable proportion of albumen was also found in the urine, indicating the rapid degeneration of the local into a general affection. The paralytic lesion of the pharynx kept increasing, so that by the twenty-fifth or thirtieth day, the woman could no longer swallow, and was like to have died while

trying to take some solids. About the fortieth day some improvement in this respect took place, but now numbness of the hands and feet was observed, as well as defective pronunciation from imperfect movement of the tongue. By the fiftieth day, progression had become uncertain, and general nervous symptoms, chiefly consisting in delirium and convulsions, set in. The worst apprehensions were now entertained, but musk having been administered, some improvement took place. So considerable, however, was the paralysis, that the patient could not raise herself without the assistance of two nurses. The bladder was also affected during two or three days, but not so the rectum. With this paralytic condition, complete anæsthesia co-existed, the patient remaining absolutely insensible to pricking with needles. At the present time (150th day) the symptoms have so ameliorated under the use of syrup of sulphate of strychnia, that the patient can now get in and out of bed easily, can knit a little, and is able to distinguish between wool and cotton by the touch. No disturbance of visual powers has taken place, although during six weeks, enormous quantities of albumen have been found in the urine. One circumstance worthy of note, is the remarkable alternations which were observed—sometimes one limb and sometimes another, being affected to-day, and well to-morrow, to again become suddenly bad again, and so on; and as this is of common occurrence in diphtheritic paralysis, we may justly conclude that the lesion of the nervous centres is not of a very grave character.

Is diphtheritic paralysis a new disease? Those of my hearers who commenced their studies some years ago must have become struck with the sudden predominance of new pathological conditions. During the last thirty years, we have seen several of these so-called new diseases, such as Bell's disease, or facial paralysis; Bright's disease, or albuminuria; leucocythemia, or Virchow and Bennett's disease; endocarditis, or Bouilland's disease; affections of the supra-renal capsules, or Addison's disease, &c. Since the period when Calmeil published his admirable work on epilepsy, how common has this terrible neurosis become, while forty or fifty years ago it was comparatively a rare affection. Thirty years since the cholera was unknown in English and French India. The plague, still so common in certain regions, tends to completely disappear in others. Variola, pertussis, and scarlatina, which, at a very remote epoch, prevailed in great intensity, and later had almost disappeared, have been in their turns as new diseases. M. Broca, while *interne* to Blandin at the Hôtel-Dieu, never failed, when examining the bodies of those who died of purulent infection, to detect suppuration of the veins. He states, however, that at the present time he finds such phlebitis quite an exceptional occurrence. At the beginning of 1859, M. Delpech observed an epidemic of puerperal fever at the Maternité, in which suppurative fever was the marked characteristic, pus being deposited in the veins and as metastatic abscesses, while there was scarcely any pain in the hypogastrium. In another epidemic, at the end of the



year, on the contrary, it was puerperal peritonitis which carried off the patients. In medicine as well as in surgery, there are peculiar physiognomies of diseases; one revolution, the intimate essence of which escapes us, brings them on, another dissipates them, and a third re-establishes them.

As to diphtheritic paralysis, it is probable that it has never been so prevalent as within the last two or three years. M. Trousseau has performed the operation of tracheotomy successfully on sixty children (out of 250 operations), and in only two of this number have general phenomena analogous to those in question been observed. Diphtheria itself, indeed, has of late years taken on an altered physiognomy, for in place of invading the pharynx, and proceeding slowly towards the larynx, it now becomes generalized with a terrible facility, prostrating the patients, and delivering them up to the mercy of nervous accidents of the highest intensity. "I never witnessed such cases with Bretonneau, although my master subsequently signalized these manifestations of a novel malignity."

In answer to the question, whether a simple angina may not sometimes lead to a paralysis, M. Trousseau adduces some cases in which paralysis of the velum seems to have followed it; but when the paralysis has become more generalized, he suspects that it may be due to diphtheritic influence, although this may not have been accompanied by its usual local manifestations—just as is the case with instances of scarlatina accompanied by little or no eruption.

In 1771, Samuel Bard described a case of aphonia following diphtheria, and Bretonneau reporting this fact in 1826, stated that he then had met with nothing analogous to it; but in 1843, he witnessed the production of paralysis of the extremities following diphtheria, in the person of M. Herpin, a surgeon of Tours, who had contracted the disease in consequence of some of the false membranes from the throat of a patient, which he was syringing, gaining access to his nostrils. Since that time, M. Trousseau has paid much attention to this complication; but believing at first that the paralysis of the velum might be due to muscular inflammation, it was not until 1853 or 1854 that he definitely drew the attention of practitioners to the fact that the paralysis really depends upon a more general condition, and that it is, in fact, one of the effects of the poisoning of the entire economy by the diphtheria. M. Maingault has especially of late done much towards the elucidation of this disease, which has not only multiplied itself at the Children's and at St. Eugénie Hospitals, but has become so common in private practice; and perhaps there is not a single practitioner in Paris who has not seen one or more cases.

Although, in general, the very varied paralytic symptoms in diphtheria may cease, even without the intervention of medicine, at the end of two, three, four, or six months, there are other cases in which death may be the result, or the paraplegia may become more enduring. Examples of this are adduced by M. Trousseau

from his own practice. In some cases death has resulted from the mere difficulty in swallowing.

As to the nature of this paralysis, it is evident that it is not dependent upon a material lesion of the brain, as this would be inconsistent with the versatility of symptoms observed, and with its frequent curability. It is presumable that there is something analogous to what is observed in certain cachexias. In Bright's disease, paralytic phenomena are also observed, and the amaurosis in that affection has been well made out and described by M. Laudonzy and others. One very remarkable circumstance in diphtheritic paralysis is the temporary extinction of venereal desires, which occurs at a very early period, even in those possessed of considerable genital ardor. In various other serious pathological conditions, especially phthisis, the patients long preserve their copulative aptitudes. M. Trousseau referred to other instances of paralysis, analogous to those now in question, occasionally observed after feeding on certain poisonous fish, after typhoid or variola, after asphyxia from charcoal vapors, and after the manipulation of sulphuret of carbon in the vulcanized caoutchouc factories (where also both men and women experience venereal frigidity).

In the treatment of paralysis consecutive to diphtheria, while combating the local condition, we must especially endeavor to restore the patient's strength. Bark, in all its forms, iron (especially the syrup of the ammonical citrate or the perchloride), bitters, animalized and nutritious diet, exposure to the fresh air, dry frictions along the spine, aromatic and stimulant lotions, and sulphureous baths, comprise our most precious resources. Preparations of nux vomica, and especially the syrup of the sulphate of strychnia, act as general stimuli, arousing the muscular contractility, and may, on occasions, render good service. In spite of these and all other means, it must always be borne in mind that diphtheritic paralysis is an affection of considerable duration.

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*On the cure of the Deaf and Dumb by dropping sulphuric ether into the ear.* By MM. BEHIER, TRIQUET, and others. (Journ. de Med. et de Chir. Pratiq., Aug., 1860.)

Four or five years ago. Mlle. Cléret, a private teacher living in a suburb of Paris, applied to the Minister of Public Instruction for assistance in carrying out a new mode of curing deaf and dumb persons. This mode was by dropping from four to eight drops of sulphuric ether into the ear every day. A committee was appointed to inquire, of which M. Behier was a member. Speaking of what he saw, this gentleman says, "We saw deaf and dumb children, perfect little savages before the treatment, become tractable and obedient as soon as the improvement of their deafness began to

make them amenable to direction. Ether is a purely empirical remedy. When is this agent useful? when is it not? These are questions which I cannot answer. All I know is, that the only unfortunate result I have seen from its use has been its failure in certain cases. It causes a little pain; it is sometimes badly borne; in these cases it is sufficient to employ it at longer intervals. Although I do not use the remedy in my own practice, I could cite four new cases of complete deafness cured by the instillation of ether since the publication of my report."

M. Fonssagrives has not as yet published the result of his experiments; but some other practitioners, in reply to the appeal of Dr. Debout, have published a certain number of cases, which are, on the whole, favorable to the remedy of Mdlle. Cléret.

Still, we persist in the belief that ether will not realize the exaggerated expectations which have been entertained regarding it. If it only relieve deafness by dissolving the cerumen which incrusts the membrana tympani, it can only act by relieving a morbid condition hitherto unknown, and which unfortunately, to judge from certain statistics furnished us by Dr. Triquet, aurist in Paris, is not the most common cause of deafness.

Up to the 18th of July, M. Triquet had treated by ether 110 patients (rich and poor) affected, some with chronic catarrh of the middle ear, others with nervous deafness—all *deaf*, be it well understood, and subject to ringing in the ears. In all these cases, care had been taken to test the power of hearing before and after the treatment. The result has been this: The patients have been treated with thirty to forty drops of ether every three, five, or seven days, rarely every day. There has always been immediate pain, without consecutive amelioration; far from it—the deafness and the ringing in the ears have augmented progressively with the number of instillations. In twenty cases the pain and redness of the auditory canal have been so violent as to have necessitated the employment of antiphlogistics. The patients (women) have suffered from headache, which has continued for weeks, and deprived them of sleep, although the treatment was suspended on the very day that the headache was experienced.

M. Triquet had thought, as the result of his first trial, that ether might be used without inconvenience to dissolve ceruminous concretions; but he is now forced to confess that, even in these cases, its uses may occasion accidents, such as otitis, with considerable swelling of the lining membrane of the auditory meatus.

On the whole, the instillation of ether in the case of 110 patients, made with all possible precaution, has not produced, according to Dr. Triquet, any perceptible amelioration, and in a considerable proportion has manifestly aggravated the condition of the patients. The author may, no doubt, be reproached with having unconsciously, in his character as specialist, deepened the shadows in the above picture; but even charging to the account of individual susceptibility the accidents attributed to ether, we must still see here a list of 110 failures out of 110 patients. This result, it must be



allowed, is not encouraging; and there is much reason to apprehend that M. Menière only expressed the truth in writing to M. Debout, that a belief in the efficacy of ether to cure deafness was one of those generous dreams which pass away with the morning light.—*Ranking's Abstract.*

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*On the therapeutical methods of preventing pitting of the face in Small-pox.* By DR. STOKES. (Dublin Quar. Jour. of Med. Science, Feb., 1860.)

During the last four or five years, Dr. Stokes has employed gutta percha and collodion, in a considerable number of cases of confluent smallpox, for the purpose of preventing pitting of the face. In most of the cases the crust came off in large flakes or patches, composed of the dried exudations and the covering material, leaving the skin uninjured. This kind of treatment was most successful in cases of a typhoid character, but appeared to be not so well adapted to those presenting a more sthenic type. Dr. Stokes considers that the application of poultices over the face is the surest method of preventing disfigurement in smallpox. Their use should be commenced at the earliest period, and continued to an advanced stage of the disease. In most cases they may be applied even over the nose, so as to cover the nostrils. The plan should fulfill three important indications of treatment—namely, to exclude air, to moderate the local irritation, and to keep the parts in a permanently moist state, so as to prevent the drying and hardening of the scabs. The best poultice is formed of linseed meal, which should be spread on a soft material, such as French wadding, and covered with gutta percha paper or oiled silk. The conclusions to which Dr. Stokes arrives are the following: 1. That the chances of marking are much greater in the sthenic or inflammatory than in the asthenic or typhoid confluent smallpox. 2. That, considering the change in the character of disease observed during late years, we may explain the greater frequency of marking in former times. 3. That in the typhoid forms of the disease the treatment of the surface by an artificial covering, such as gutta percha or glycerine, will often prove satisfactory. 4. That in the more active or non-typhoid forms the use of constant poulticing, and of every other method which will lessen local inflammation, seems to be the best mode of preventing disfigurement of the face.

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*Cure of Cutaneous Diphtheria by Perchloride of Iron.* (Gazette des Hopitaux, July, 1860.)

The following case is doubly interesting, both as an example of the effect of a mustard-plaster on the skin, under the influence of a

diphtheric epidemic, and as an example of the good effects of the internal and external use of perchloride of iron. A man, forty-two years of age, of a strong constitution, was seized, in November, 1859, with a subacute form of bronchitis, and as he became delirious in the course of the complaint, Dr. Noir, who was attending him, ordered mustard-plasters to the calves of the legs. The delirium ceased, but the mustard produced a vesication, which disturbed the patient all night. The next day Dr. Noir opened the vesicles without removing the epidermis, and a quantity of serum escaped, similar to that of blisters. There was great subsequent irritation, however, and Dr. Noir, investigating the cause of the patient's sufferings, discovered, instead of vesicles, two enormous diphtheritic patches, one on each calf; these patches were of a greyish-white color, irregular and dry, sufficiently hard to give a sound when struck by a spatula, both surrounded by an erysipelatous areolæ, tending to enlarge, and more painful than the patches themselves. There were at the time several cases of diphtheria among children in the neighborhood. Dr. Noir cauterized all the areolæ with nitrate of silver, in order to prevent the disease from spreading; and he also ordered a draught to be taken, containing twenty drops of tincture of perchloride of iron at frequent intervals. The diphtheritic patches and the inflamed skin surrounding them were washed with a solution of iron. By this treatment, the progress of the disease was arrested and the pain was relieved, and after a few days a decided improvement was manifest. The diphtheritic patches were gradually thrown off, and eventually two ulcers of a healthy appearance were left, which proceeded to cicatrization without any serious symptoms.—*Medico-Chirurg. Review*.

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*On the Use of Ergot of Rye in the treatment of Retention of Urine from Paralysis of the Bladder.* By Dr. ALLIER. (Bulletin General de Therapeutique, Sept. 15th and 30th, 1860.)

The faculty possessed by ergot of rye of producing uterine contraction suggested to Dr. Allier the idea of employing this agent in the treatment of certain forms of paralysis of the bladder; and M. Paul Gaersant has subsequently demonstrated in his practice at the Bicetre, that the ergot is really endowed with the property of exciting contraction of the bladder. He employed it not only in cases of retention of urine from simple paralysis of the bladder, but also in order to promote the expulsion of the detritus of calculi after lithotrity. In order to ascertain the physiological effects of this substance, Dr. Allier took several times, fasting, one gramme divided into four doses; the results were a little heaviness of the head, and a slight feeling of intoxication similar to that produced by champagne. Sometimes there was a desire to make water more frequently than usual, almost always a kind of uneasiness in the pelvic organs, which prevented sleep; at other times, on the

following night there was a kind of involuntary jactitation and disturbed sleep, and the rhythm of the heart's pulsation was variable. Dr. Allier relates a number of cases treated by ergot of rye, and his general conclusions are as follows: In the first place, he finds that the innoxious character of the drug is fully established, although he administered it in large doses continued for a long time, and he is therefore induced to doubt the deleterious effects attributed to it by some writers, or rather he believes that there may be different kinds of ergot, some of which are poisonous and others not so. In four out of fourteen cases related, there was evident excitement of the generative organs, which could be attributed only to the use of the ergot, and nearly all the cases exhibited more or less alteration in the nervous system, the most constant effects being a kind of pleasing inebriation, itching of the skin, nausea, uneasiness in the lower limbs, slight convulsive movements, and especially excitement of the contractility of the bladder when this function had been weakened or lost. The ergot appears especially to have a kind of mysterious predilection for the bladder, of the same nature as that which is admitted to exist in the case of the uterus, and quite as inexplicable; it is, in fact, a special and transient excitor of the nervous system, appearing to act more particularly upon the lumbar portion of the spinal cord and the hypogastric plexus of the sympathetic, which themselves react upon certain orders of muscles, and especially on those of the bladder. Dr. Allier does not agree with M. Bonjean in classing ergot among the opiates; for, according to the former physician, ergot never produces stupefaction, such as is observed in advanced drunkenness, or in opium-smoking and opium-eating. The transient intoxication produced by ergot can only be compared to the effects of a glass of champagne. It may be admitted, however, that one of the principles of ergot—namely *ergotine*—may present some analogy with opium in its stupifying power. Dr. Allier draws the following conclusions from his researches: Ergot overcomes retention of urine when it has not yielded to catheterism, and abridges the duration of those cases which would yield in time to the catheter. It has no efficacy in the treatment of retention caused by enlargement of the prostate. Paralysis of the bladder, resulting from cerebral hæmorrhage, yields rather easily to ergot; but this is not the case with paralysis of the limbs following apoplexy. Ergot is equally efficacious in vesical paralysis connected with an undetermined lesion of the nervous centres, but has no power over paralysis of the limbs dependent on the same lesion.—*Medico-Chirurg. Review.*

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*On the Diagnosis of Dislocations of the Shoulder.* By M. MAISONNEUVE. (Moniteur des Sciences Medicales, No. 122)

It very often happens, M. Maisonneuve observed in a recent clinical lecture, that even experienced surgeons may hesitate respecting the existence of a luxation of the shoulder; and you are



aware of the learned dissertations to which the differential diagnosis of these luxations, fractures of the neck of the humerus, and even simple contusion, has given rise to. Numerous are the pages, even in the most recent works, devoted to this important discussion; and certainly, after reading and meditating upon them, one can but be persuaded that this diagnosis is one of the most delicate and difficult in surgery. This does not arise from the enumeration of the characteristic symptoms of each lesion being incomplete. Far from it; for real and doubtful symptoms, vague and precise symptoms, are so accumulated that even the most skilful can scarcely make them out, while the simple practitioner is utterly at a loss. Still there is a simple and easily-discovered symptom, which will always enable you to recognise with certainty not only this but any other dislocation, whatever swelling of the surrounding soft parts may exist. This symptom is based upon the fact that *in all dislocations the normal movements are impeded or abolished*, while in simple contusion these movements persist, and in fractures others of an unusual nature are added to them. Take hold of the arm, and endeavor to make it execute the movements proper to the articulation. If these are found to be impossible, or very limited, there is without doubt dislocation; while if these remain intact, no luxation exists, and the presence or absence of shortening and crepitation will determine whether the accident is a fracture or a mere contusion. This sign alone will enable the diagnosis of the dislocation to be made. The study of the symptoms may be carried farther, and analysed in detail. We may verify the flattening and the depressibility of the shoulder, the projection of the head of the humerus, the elongation of the limb, and the various circumstances which determine the variety of the dislocation. But the mere fact of the abolition of the movements of the joint had already placed the fact of the dislocation beyond all doubt.—*Medico-Chirurg. Review.*

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*A new method for the reduction of Strangulated Hernia.* By Mr. WALTER JESSOP, Surgeon to the General Hospital and Dispensary, Cheltenham. (Lancet, Oct. 20, 1860.)

In May last, Mr. Jessop was called to a case of strangulated hernia (left oblique inguinal), in a man aged fifty-two years. The accident had occurred some thirty-six hours previously. The taxis, opium, chloroform, hot baths—in short, all the ordinary modes of treatment, had been perseveringly applied, without success.

At the time of his visit, he found his patient in a partial state of collapse, in a profuse cold perspiration, with great tension of the abdomen, and symptoms of hiccough and nausea coming on. The patient complained bitterly on his lightly attempting an examina-

tion; indeed, the part seemed so exquisitely painful as at once to negative all hope of success from further direct efforts at reduction. An immediate operation was proposed, but firmly declined by the patient and his friends. Desiring them to seek further advice, Mr. Jessop left the room, but was immediately recalled, with a request that he would permit an hour's delay. Agreeing to this, and while waiting in the house, a thought struck him that it might occasionally be possible to relieve a patient under such circumstances without having recourse to the knife. On explaining this to the patient and his friends, they at once consented to a trial of the means proposed.

Calling a male attendant into the room, he directed his patient, still lying on his back, to the edge of the bed, and with assistance, separated his legs, placing one over each shoulder of the attendant, who, facing the bed, stooped to receive them; and, in this position, by passing his hands round the fore part of the thighs, was enabled to obtain a sufficient purchase to permit of his raising him on to his head and shoulders on the bed, thus throwing the intestines back upon the diaphragm, and to some extent necessarily making traction behind and directly *from* the seat of strangulation. After two or three minutes' manipulation of the abdominal parietes, he found the tumour become less tense, and drawing forwards the integuments round the point of rupture, he made lateral, upward and downward movements—jerking, as it were, occasionally, the parts immediately contiguous to the stricture. This seemed to excite but little suffering; in fact, the patient, so far from uttering complaint, declared himself, after the first two or three minutes, decidedly relieved—that “the dead sickening weight that killed his groin,” as he termed it, was better. Continuing these efforts, and varying them as they seemed to occasion distress, he presently felt a slight gurgling under his hand, and almost immediately had the satisfaction of finding the hernia reduced, and his patient comparatively in a state of safety.

The whole proceeding did not occupy ten minutes. Slight peritoneal tenderness existed for some days, but the man eventually did well.

The *rationale* of the proposed plan is simple. A mass, large or small, of displaced intestine or omentum, must assuredly be more readily withdrawn from its point of incarceration or strangulation by traction from behind, than by the best-directed efforts of the taxis. Any one, for illustration, taking the trouble to put a fold or two of his handkerchief in a ring formed by his finger and thumb, and lightly strangulating it, will, on attempting to return it by pushing or kneading from before backwards, find infinitely greater difficulty in effecting his purpose than if he were to make traction from behind. In short, the employment of the taxis is at the best a clumsy and most uncertain mode of proceeding, and in future the author intends to make it merely supplementary to the plan he now advocates.

"One swallow fails to make a summer," and it may be said that the practice of turning patients *a posteriori* upwards is opposed to all orthodox notions of propriety. Admit all this. Others, with greater opportunities, may happily be enabled to add to this single case; and granting that the position of the patient may be accused of positive inelegance, it may, at any rate, contrast favorably with our proceedings in lithotomy, and in many other operations on the perineal region.—*Ranking's Abstract.*

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*On the nature and treatment of Prostatorrhœa.* By Professor GROSS, of Philadelphia.

Prostatorrhœa is defined to be a discharge from the prostate gland, generally of a thin mucous character, dependent upon irritation, if not actual inflammation, of the component tissues of that organ. It has generally been confounded with other lesions, as gleet, or chronic urethritis, seminal losses, and cystorrhœa, or chronic inflammation of the mucous membrane of the bladder. It does not often occur among children or old people, but is most common during the activity of the sexual organs, and is most frequently met with in those whose sexual propensities are the strongest. The exciting causes are not always evident, but the disease has generally been traceable, either directly or indirectly, to venereal excesses, chronic inflammation of the neck of the bladder, stricture of the urethra, or some affection of this canal; it may have its origin in diseases of the rectum, and the use of internal remedies, as cantharides, turpentine, may excite a temporary prostatorrhœa; a common cause in young men is masturbation. The *symptoms* are a discharge of mucus, generally perfectly clear, ropy, varying from a drachm upward in twenty-four hours; in efforts at defecation the flow is greatest. It is attended, also, with a pleasurable, tickling sensation sometimes. Prostatorrhœa may be distinguished from urethritis by the gradual supervention of symptoms, the transparency of the discharge, the absence of symptoms of inflammation of the urethra, &c.; from spermatorrhœa, by a microscopical examination of the discharge; from cystorrhœa by the absence of changes in the urine, or difficulty in micturition. The *pathology* of this affection consists in a disorder of the follicular apparatus, leading to an inordinate secretion of its peculiar fluid. This may be due to inflammation, but in some instances the organ appears to be entirely healthy, in which case it is supposed to be due to a heightened functional activity. The *prognosis* is generally favorable, as this affection is not a disease, but a symptom of disease, usually slight, and easily removed; it is often, however, very obstinate, and when the mind deeply sympathizes with the local affection is very difficult of management. The *treatment* should be directed to the removal of the cause, and to this end there should be a thorough explanation of the genito-urinary appa-



ratus, the anus, and the rectum, and a careful inquiry as to the habits of the patient. If he is weak, gentle exercise, nutritious diet, wine and tonics are indicated. The tincture of the chloride of iron in union with tincture of nux vomica is especially recommended; if he is plethoric, the antimonial and saline mixture is useful; the most useful topical applications are cooling and anodyne injections, as Goulard's extract with wine of opium in the proportion of one or two drachms each in ten ounces of water, three times daily; in obstinate cases, cauterization once a week may be necessary; the cold hip-bath is also important, and if the symptoms do not yield, leeches should be applied around the anus and to the perinæum.—*North Amer. Med.-Chirur. Review*, July, 1860.

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THE DENGUE OR BREAK-BONE.—This fever prevailed the last season in Savannah and other Southern cities. It was not, however, in our opinion, as *severe or general* as it was some years past. It might be called an epidemic, perhaps, with propriety, but we are satisfied, from our own observation, that many cases of *intermittent* and *remittent* fevers were styled *break-bone*, because of an existing white tongue, and an unusual amount of pain in the limbs. Dengue is a fever of one paroxysm. The most of the cases treated by us, though accompanied with neuralgic pains, were distinctly remittent or intermittent, and late in the fall almost every case lasted from three to six days, a large majority unattended with an eruption. The cases of intermittent had same character of tongue, and pain in the limbs, with characteristic intermission, and chills followed by fever. This is never the case in Dengue. Hence we are forced to the conclusion that these cases were intermittent and remittent fevers, modified by the epidemic tendency to break-bone—not genuine cases of the latter. We must state that we searched diligently for the eruption in our hospital and private practice. The eruption was found in comparatively few cases. The latter is not a constant accompaniment of Dengue, we admit, but its absence in so many cases, is at least corroborative evidence that the fever was not as general as some might be inclined to believe. Wherever there exists an epidemic tendency, we are prone to class diseases accordingly. When epidemic cholera prevails, every diarrhœa is called cholera—when yellow fever, every fever is treated as such, &c. More discrimination is required if we desire to arrive at truth, and obtain reliable statistical data.

It is a notorious game quacks play, by stating to the public that they have so many cases of yellow fever, or cholera, of diphtheria, etc., and only lost so many, making the last incredibly small. This is a plan, scientific perhaps, (?) of misrepresenting their success. In one case every fever, however simple, is put down as yellow—in the other, every intestinal disorder is numbered among the cholera cases—and all apthous affections classed as diphtheria.

The public is deceived and reputation gained. We hope that regular practitioners will be guarded in this particular, and never sacrifice truth to individual interest. There is another peculiarity of fevers in Savannah this fall, but we do not now propose to enlarge upon, which is that as winter commenced and vicissitudes of temperature became greater, there was an evident tendency to *congestion*. This was manifest in all kinds of fever—Remittent, Intermittent, and Break-Bone.—*Sav. Journal of Medicine*.

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*A Case of Leucocythæmia.* By Dr. GEORGE SHEABER, Resident Physician, Royal Infirmary, Edinburgh.

A young man aged twenty-four, a miller by trade, admitted to the infirmary under the care of Dr. Gairdner, affords an interesting illustration of leucocythæmia. Three weeks elapsed from his admission to the time of his death, and "the following is a summary of the facts of the case in regular sequence: Anæmi, languor and debility; epistaxis; headache; bleeding from the gums; renal pain, with lithiasis; febrile symptoms; disappearance of lithic acid, and appearance of lithates and albumen; diarrhœa; re-appearance of lithic acid; uncontrollable epistaxis; hæmatemesis; otitis; exhaustion and death."

The crystalline deposit in the urine, on third or fourth day after admission, consisted mainly of hexagonal crystals of the lithic acid, with a few of the ordinary rhomboidal crystals. These, we have already said, afterwards disappeared. Post mortem examination revealed leucocythæmia, enlarged spleen, fatty liver, petechiæ on the mucous membrane of stomach and on the serous surfaces of the pericardium and endocardium.

The case detailed by Dr. Sheaber gives him a field for reflection, which he discusses in the following suggestions:

1. Enlargement and activity of the spleen is not the only condition involving increase of the white corpuscles, there being at present a case in the infirmary in which this condition of the blood co-exists with enlargement of the whole lymphatic system of glands, without detectable enlargement of the splenic organ.

2. The fact of a great excess of white corpuscles in the blood in cases of leucocythæmia being accompanied by constant diminution of the red discs, appears to militate against the theory put forward by Wharton Jones, and supported by Bennet and others, that the latter are derived from the former by liberation of their included nuclei; for, according to their theory, increased activity in the formation of the white ought, *pari passu*, to be attended by increased development of red discs, while the reverse is the case. Comparative increase of the white corpuscles is seen in a variety of organic diseases, especially chest affections; but it also occurs in dysentery, diarrhœa, paraplegia, etc.; in all of which one general condition was observed, viz: depreciation of the appetite, and

emaciation. These facts, Dr. Sheaber thinks, point to the blood itself as the primary source of origin of the red discs, and in the diseases mentioned there is either a deficiency of nutritive pabulum taken into the blood for the production of the red corpuscles, or these are rapidly melted down to supply the elements of the discharge. In leucocythæmia, again, the nutritive pabulum is appropriated for the formation of the white corpuscles, the blood being thereby impoverished to the extent to which these are increased; development of the red discs is consequently kept in abeyance, and anæmia is again the result.

3. The deficiency of color in the urine and the salts obtained from it depends probably upon the same cause as the pallor of the general surface, viz : deficiency of red globules and hæmatin in the blood.

4. Careful study of the deposit of lithic acid seemed to warrant the inference that the common or lozenge-shaped crystals is derived from the perfect hexagonal form by shortening of the lateral planes of the latter; but this does not explain the formation of the true rhombic crystal, which is an irregular form.

5. Hemorrhage from various mucous surfaces form as prominent feature of this disease, and may depend partly upon the increased tension maintained in vessels by the absolute increase of volume in the mass of the blood, and partly upon the imperfect nutrition of the walls of the capillaries from the inferior quality of the blood for histogenetic purposes.

6. The white corpuscles, we know, are closely allied to fibrin in composition and character; fibrin is increased in febrile and inflammatory diseases, and accompanying this is an increased elimination of lithic acid, or lithates, by the kidneys. Can any relation exist between the lithuria present in this case, and the increase of white corpuscles in the blood?

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*Rabies as an Epizootic in Early Ages.* By Dr. HUSEMAN.

Rabies has found, on more occasions than one, some special historians. Among these may be mentioned Krugelstien, on account of his "History of Rabies Canina and Hydrophobia," Gotha, 1826—an account of which deserves all approbation for the labor spent on it. All writers on rabies canina, however, take their notes of it from modern times—Krugelstein himself citing those only from the 18th century. And yet there were cases in earlier times, which came under the observation not only of contemporary medical men, but also of the chroniclers of those days.

Thus, in the first part of a familiar historical book—"Theatrum Europæum," by Joannes Phillipus Abelinus (or Gottfried), Frankfurt, 1634,—we find the following in page 712 :

"In addition to all the distress and war, and great famine, which extended over almost every place at this time, still another plague



appeared, from harvest to November, 1621, in Rhenithal, and the territory of Appenzoll and the surrounding country. For, during the previous summer, the bodies of many thus dying, having been thrown into the Rhine and then cast upon its shores, the dogs fed upon them; on which account they became mad, and afterwards attacked the cattle in every direction and destroyed them. The loss of the people in this way was estimated at 25,000 gulden. At last they were obliged to turn out with spears, rifles and poles, and destroy every animal thus affected.

"At this period, the trees, as in spring, both in these and in other places, blossomed, and the birds laid their eggs and hatched forth their young.

"In Siebenburgen the dogs also run mad, and not only bit cattle, but even men, causing them to go mad; so that they were obliged, with great labor and grief, to put such infected men and cattle, along with the dogs, out of the way, to prevent still further misfortune and peril, which could not otherwise be avoided."

It is worthy of remark, that Siebenburgen was specially affected; since, according to Beecher's Statistics of the Austrian Empire, it still suffers, most of all the provinces of the Empire, with rabies. That, in the year 1621, men affected with rabies "were put out of the way to prevent still further misfortune and peril," is perfectly credible, when we think of the manners of the age and the country.

The erroneous idea, that rabies canina arose from devouring dead bodies, was extensively believed in the 17th and 18th centuries, and even finds an expression in the laws of the time. Thus, in the "Laws of the Principality of Lippe," vol. iii, 10, the following circular may be found relating to the interment of dead cattle:

"As it is reported that the required interment of dead cattle has been neglected in some parts of the country, and in others it is not made deep enough, so that the dogs can dig the carrion out of the earth, eat it, and become mad; the authorities will take care to have a more strict compliance with the edict of May 4, 1779, and bring those violating it to punishment."

That, by the consumption of carrion, a true epizootic might be produced in dogs, which should have a great resemblance to contagious rabies, later investigations have shown.

In the other volumes of the European chronicles of Abelinus (the work is in 16 volumes) which Dr. Huseman has examined, he finds no record, except that of this epizootic among the dogs, in the 17th century. But the misdeeds of wolves, that had gone mad, are recorded in various years. Thus, in 1651, it is stated that in Cologne, on March 31st, a wolf, having lately gone mad at Ververs, destroyed twelve men before he could be slain. In his throat there was found a large piece of fresh human flesh, which might have been from a soldier of Lothingia, as these were lying unburied in quantities in that region. In the woods or forests, between the Italian States of Pisa and Luca, six large, fierce wolves were seen together, which had become so famished that they not only attacked sheep and other flocks, but also their shepherds and

herdsmen, destroying twenty of the latter. Hence the Grand Duke of Florence despatched his upper master of the chase, with all his dogs, and 400 soldiers, to exterminate these wolves, but they were not to be found.

Similar wolf stories are related of Bohemia, Erfurt, and Touraine, in the years 1652, 1653 and 1671, which cannot here be discussed, since they possess no special interest, and the proofs alleged merely illustrate the characteristics of the style employed in the "*Theatrum Europæum*."

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*John Wakefield Francis, M. D.*

(Died February 8th, 1861—Aged 72 years.)

A great and good man has passed away from our midst. One of the last representatives of a glorious race of physicians has gone to his resting-place: John Wakefield Francis is dead; a cloud of mourning is cast over his city, at the loss of him who was one of her noblest sons and citizens; and the profession throughout the country feels deeply that it has lost one of its brightest stars. The loss is felt the deeper, because it came unexpectedly. Though far advanced in years, Dr. Francis was one of those few men whom we never can look upon as old—whose very winter of life seems but a return of the spring time of youth.

The personal, professional, and public history of Dr. Francis is so well known to most, that we need not enter into a lengthy biographical dissertation; a short sketch will suffice.

He was born in New York, in the year 1789. His father, Melchoir Francis, was a native of Nüremburg, Bavaria, who had come hither shortly after the establishment of American Independence.

Young Francis at first chose the calling of a printer, like Franklin, whom he personally much resembled. But his inquiring mind led him onward to higher aims. He entered Columbia College, where he graduated in 1809, and received his A.M. in 1812. On leaving college, he entered into the office of Dr. Hosack; and in 1811, received his degree of M. D. from the College of Physicians and Surgeons. His inaugural thesis on the *Use of Mercury*, attracted much attention, and was translated into German. Very soon after his graduation, Dr. Hosack urged him to unite with him in practice, and this union continued until 1820.

In 1813, at the Union of the Faculties of Columbia College and the "Physicians and Surgeons," he was elected Professor of *Materia Medica*, and successively, in the various changes of this medical school, filled the chairs of the Institutes of Medicine, Medical Jurisprudence, and Obstetrics. He resigned in 1826, and took part in the formation of Rutgers's College. For nearly twenty years, he was thus an assiduous and successful professor of various branches.

In the literature of his profession, Dr. Francis has been laborious. In 1810, in connection with Dr. Hosack, he founded the *American Medical and Philosophical Register*. His valuable edition of "Denman's Midwifery," with copious notes and an erudite prefatory history of the art of midwifery passed through several editions. "Cases of Morbid Anatomy," the "Value of Vitriolic Emetics in the Membranous Stage of Croup," "Facts and Inferences in Medical Jurisprudence," etc., are but a few of his many medical essays and monographs.

He was alike distinguished in the walks of general literature, and especially that of biographical and local history. It is here where his genial nature, his vivid recollection of olden times, and his lifelong intercourse with the most eminent statesmen, philosophers, authors, and artists, enabled him to occupy a position which few men can reach, and rendered his social and literary reunions so famous in literary and artistic circles.

The high esteem in which Dr. Francis was held by the profession can be no better shown than by the fact that he was chosen the first President of the Academy of Medicine of New York; beside numerous literary and scientific societies, he was a member of the London Medico-Chirurgical Society, and, with De Witt Clinton, an honorary member of the Wernerian Society of Edinburgh. He first noted, in a letter from London, June, 1816, the fact of the rare susceptibility of the human constitution to a second attack of pestilential yellow fever; he was the first therapeutically to employ croton oil, elaterium, and iodine, in this country, and to introduce them to the profession.

But the scientific and literary fame of Francis is too wide spread and well known, to need an extensive notice here. A few words regarding the MAN.

He was generous, noble in deeds of charity, a friend of all in need, and a liberal supporter of educational and charitable institutions. In his convictions, he was earnest, and it was this which gave his opinions decision and individuality that always entitled them to a hearing, and made him eloquent in simple scientific controversy or on festive occasions.

This earnestness of conviction, forming so eminent a trait in his character, was, perhaps, never in his life more strikingly exemplified than during the celebrated yellow fever discussion at the Quarantine Convention in New York, and in the Academy of Medicine. Well do we remember him, standing alone among his professional brethren, the advocate of the contagiousness of yellow fever, and yet while all around him opposed his views, undaunted and unmoved he followed what he considered his duty, and when, after an extempore address of over an hour, he took his seat, there was not in that assembly one who would not have conceded to him the palm of true eloquence, which is found only where earnest convictions move the mind. How much in this respect did he differ from many, who by rhetorical fanfarades and dramatic action, in



vain attempt to do what earnestness and truthful conviction alone can accomplish.

When a physician dies it is but proper that his brethren should be informed of the cause of death. Francis died, it seems, of exhaustion, consequent upon the debilitating effects of a carbuncle, which had been opened. He was conscious to the last, and awaited death with serenity and resignation which his deep religious feelings afforded him.

The immense throng of men of all classes, who paid him the last respect, but showed that one of the men of the age had gone home, whose memory forms one of the landmarks in the history of our profession.—*Phila. Med. and Surg. Rep.*

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*Actions of Different Medicines on the Mental Faculties.* By  
Professor OTTO.

All stimulant and exciting medicines increase the quantity of blood sent to the brain. If this quantity exceeds a certain amount, then most of the faculties of the mind become over-excited. Nevertheless the degree of this action is observed to vary a good deal in different cerebral organizations; and it is also found that certain stimulants exercise a peculiar and characteristic influence upon special or individual faculties. Thus ammonia and its preparations, as well as musk, castor, wine, and ether, unquestionably enliven the imaginative powers, and thus serve to render the mind more fertile and creative. The empyreumatic oils are apt to induce a tendency to melancholy and mental hallucinations. Phosphorus acts on the instinct of propagation, and increases sexual desire; hence it has often been recommended in cases of impotence. Iodine seems to have a somewhat analogous influence, but then it often diminishes, at the same time, the energy of the intellectual powers. Cantharides, it is well known, are a direct stimulant to the sexual organs; while camphor tends to moderate and lull the irritability of these parts.

Of the metals, arsenic has a tendency to induce lowness and depression of spirits; while the preparations of gold serve to elevate and excite them. Mercury is exceeding apt to bring on a morbid sensibility, and an inaptitude for all active occupation.

Of narcotics, opium is found to augment the erratic propensities, as well as the general powers of the intellect, but more especially the imagination. Those who take it in excess are, it is well known, liable to priapism. In smaller doses it enlivens the ideas and induces various hallucinations; so that it may be truly said, that, during the stupor which it induces, the mind continues to be awake while the body is asleep. In some persons opium excites inordinate loquacity. Dr. Gregory says that this effect is observed more especially after the use of the muriate of morphia. He noticed

this effect in numerous patients, and he then tried the experiment on himself with a similar result. He felt, he tells us, while under the operation, an invincible desire to speak, and possessed, moreover, an unusual fluency of language. Hence he recommends its use to those who may be called upon to address any public assembly, and who have not sufficient confidence in their own unassisted powers.

Other narcotics are observed to act very differently on the brain and its faculties from opium. Belladonna usually impairs the intellectual energies; hyoscyamus renders the person violent, impetuous and ill-mannered; conium dulls and deadens the intellect, and digitalis is decidedly antiaphrodisiac. Hemp will often induce an inextinguishable gayety of spirits; it enters into the composition of the intoxicating drink which the Indians call *bauss*. The use of *amanita muscaria* is said to have inspired the Scandinavian warriors with a wild and ferocious courage. Tobacco acts in a very similar manner with opium, even in those persons who are accustomed to its use; almost all smokers assert that it stimulates the powers of the imagination.

If the psychological action of medicines were better known, medical men might be able to vary their exhibition, according to the characters and mental peculiarities of their patients. The treatment of different kinds of monomaniacal derangement also might be much improved, and it is not improbable but that even a favorable change might be wrought on certain vicious and perverse dispositions, which unfortunately resist all attempts at reformation whether in the way of admonition, reproof, or even of correction.

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## Bibliographical Notices and Reviews.

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*Diphtheria.* By E. HEADLAM GREENHOW, M.D., Fellow of the Royal College of Physicians, etc., etc. New York: Bailliere & Brothers. Pp. 160.

*Diphtheria: Its Nature and Treatment, with an Account of the History of its Prevalence in various Countries.* By D. DENISON SLADE, M.D.: Being the Dissertation to which the Fiske Fund Prize was Awarded July, 1860. Philadelphia: Blanchard & Lea. 1861. Pp. 85.

The prevalence of Diphtheria in this country, and the demand for recent treatises, have induced our publishers to issue the above monographs. The former one has also been simultaneously issued in London, Paris, Melbourn and Madrid.

Not, of course, until the present epidemic has run its course, will any one be able to write the history of American Diphtheria. We must have a complete demonstration of all the features of the complaint, before its character can be known.

The history of Diphtheria has, of late, elicited a good share of attention. While nothing exactly like the Diphtheria of the Nineteenth Century is to be found in the ancient records, several diseases have prevailed that, from the accounts given, have possessed a very strong family likeness. As far as we know, Aretæus, who lived in the time of Domitian, (A.D. 50-80,) and who practiced in Rome, is referred to and quoted as having first noticed and described a form of disease similar to Diphtheria. He speaks of the throat being the seat of ulcers, covered with a membranous deposit, which occasionally extended to the wind pipe, when death followed from suffocation.

In Spain, as early as the Seventeenth Century, a disease was described under the name of "*garrotillo*," or *morbus suffocans*, which, it is supposed, was similar to our epidemic. The authors, Villa Riel, Fontecha and Herrera, who witnessed the disease, all agree in indicating the tonsils and palate as being primarily implicated—inflamed, ulcerated, and covered with white or bluish white membrane; while the last goes on to describe some eight varieties or stages of the disease. The first two varieties resembled the common sore throat, but prevailing simultaneously with the graver forms, Herrera regarded them as milder types, due to the same epidemic influence.

Early in the Seventeenth Century, also, the disease (*morbus suffocans*) showed itself in Naples and Sicily. In the latter place it raged with much severity, and is described by Alaymus and Cortesius. The throat affections overshadowed everything else; as a consequence, the disease was sometimes called *gula morbus*. Grades obtained here also, and were minutely described. The mild variety consisted simply in inflammation of the palate, tonsils, uvula, and excited but little apprehension; the malignant was attended with membrane in the fauces, extending occasionally to the posterior parts of the nose, or to the air passages, producing death by suffocation.

About the middle of the Eighteenth Century, the disease made its appearance in many parts of Europe, in Great Britain and in America. *Morbus strangulatorius* prevailed in London in 1737;



and in 1746 it prevailed in an alarming manner at Bromley and at Greenwich. To Dr. Fothergill the credit is due, of having given the earliest account of the complaint. His paper (*Account of the Sore Throat, Attended with Ulcers*) was published more than a century since (1748). Huxham published a dissertation on the *Malignant Ulcerous Sore Throat*, which prevailed at Plymouth from 1751 to '53. Huxham and Fothergill differ but little in their descriptions. Both speak of the throat as being the part primarily affected, and both mention the presence of false membrane on the tonsils, palate, and uvula, as the alarming circumstances of a case.

The first account of the "*Sore Throat Distemper*" in America, is that of Dr. Douglas of Boston, in 1736. The disease was very malignant, and attended with putrid symptoms. Giving an account of something similar, Mr. Cadwallader Colden wrote from New York, Oct. 1st, 1753, to Dr. Fothergill of London. Mr. Colden states that the disease visited all the British Colonies, appearing first in those places to which the people resorted for trade. Dr. Samuel Bard, in 1771, gave a description of an epidemic sore throat which prevailed in New York. He recognized the analogy between the disease and croup.

The *Diphtheria* of the Nineteenth Century has been described by Bretonneau of Tour, in two memoirs communicated to the *Académie Royale de Médecine* in 1821. It is with this Author, as all know, the name *Diphtheria* originated. The word "*Diphtheria*" has the following significations: "Skin," "Leather," "Parchment." The membrane, therefore, becomes the leading idea of the disease—the pathognomonic lesion. The following are some of the characters, as given by Bretonneau:

"At the beginning of the disease there is a circumscribed redness which is covered with semi-transparent coagulated mucus. The first layer, thin, supple and porous, may be still elevated by portions of unaltered mucus membrane in such a manner as to form vesicles. Often in a few hours the red patches visibly extend, step by step, through continuity or contact, in the manner of a liquid which is poured out on a plane surface, or which runs by striæ into one channel. The concretion becomes opaque, *white and thick*; it assumes a membranous consistence. At this period it is easily detached, and adheres to the mucous membrane only by very delicate prolongations of a concrete matter, which penetrates into the muciporous follicles. The surface which it covers is usually of a slightly red tint, dotted with a deeper red; this tint is more vivid at the periphery of the patches. If the false membrane be detached and leave exposed the mucus surface, the redness, which appeared subdued under the concretion, re-appears,

blood transudes through the deep red points, the concretion re-appears, and becomes more and more adherent upon the points first invaded; it often acquires a thickness of several lines, and passes from a yellowish-white to a grayish and to a black color. At the same time the blood transudes with more facility, and constitutes those stillicidia which have been generally remarked by authors."

In 1831 Dr. Bell witnessed in Philadelphia an epidemic Diphtheria. Within the last five years the disease has been recognized in the epidemic form quite frequently, not only in Europe and Great Britain, but in the U. States. Dr. James Blake and Dr. J. V. Fougeaud have given accounts of its prevalence in California in 1858. Dr. Beardsley, of Milford, Conn., and Dr. Willard, of Albany, N. Y., have contributed papers on the disease, the former to the *Boston Medical & Surgical Journal*, the latter to the N. York State Medical Society. In the Western and Southern States the disease has prevailed for several years to an extent that has attracted much of the attention of the profession. Indeed, just now, in this portion of Ohio so complete has been the epidemic influence that all classes of the community have been more or less affected.

If we were to attempt a description of the disease, as it has prevailed with us, we could not get along without making several varieties. A very mild variety was much the most general. It consisted simply in a sense of lassitude, slight fever and sore throat. The throat affection was characterized by redness and swelling of the tonsils and soft palate, with but little sensibility of the parts; so little, indeed, that many were not aware of the throat trouble until the physician called attention to it.

Another variety, with great propriety, was denominated the *membranous*. In this the initial symptoms varied but little from what they were—in the mild variety, except in intensity. Here, however, was found the *pathognomonic* lesion, the *false membrane*. The membrane was usually first noticed in small patches, on the tonsils or palate. Once in a while the whole of the fauces was covered over when first examined. In grave cases the membranous exudation extended to the posterior nares, the esophagus, and windpipe. In a case, that was post mortemized, the membrane extended from the trachea into the smaller of the bronchial tubes, completely blocking them up. Other types were present, differing more or less from what we have sketched. A very few cases occurred in this region that appeared very malignant from the

first, the first stage of the disease being characterized with great prostration and the appearance at once of copious depositions of false membrane in the air passages.

The time occupied by the disease in running its course was by no means the same in all cases. Mild cases seldom lasted over three or four days, though more or less was usually felt of the effects of the disease for several weeks. The severe cases attended with extensive membranous exudation required a longer time to run their course, though as far as we could observe, we saw nothing like a law of self-limitation.

With regard to the diagnosis of this disease there is certainly considerable confusion among authors, and this is shared in by those before us. Is the Diphtheria of our day the same disease as the 'Angina' of the *fathers*? the 'Egyptian Ulcers' of *Aeretæus*? the 'Malignant Squinsy' of *Brooks* and *Ball*? the 'Gangrenous Squinsy' of *Boerhaave*? the 'Epidemic Squinsy' of *Suan*? the 'Garrotilla' of *Villa Real*? the 'Ulcerous sore Throat' of *Huxham* and *Fothergill*? the 'Angina Maligna' of *Cullen*? the 'Scarlatina Maligna' of *Rush*, *McIntosh* and *Eberle*? the Croup of *Home* or the Diphtheria of *Bretonneau*?—Is, we inquire again, the epidemic now in our midst identical with that form of disease to which most, if not all, of the above names apply? We doubt very much whether history furnishes any thing exactly like the epidemic now prevailing. It is true, it agrees with all the throat affections of ancient and modern times, by whatever name they have been called, in having the throat as the seat of a local trouble; but it differs from most, if not all of them, in possessing exclusive lesions of its own. We recognize in the history of the so-called throat diseases several very distinct maladies. What went under the terms "*angina*" and "*paristhmia*" during the first centuries of the Christian era, and previously to that period, we most likely would now call tonsillitis palatitis or uvulitis. The "*gangrenous squinsy*" of *Boerhaave* and the "*ulcerous sore throat*" of *Huxham*, are most likely the same as the "*cynanche maligna*" and the "*scarlatina maligna*" of *Cullen* and *Rush*. In the "*Garrotilla*," however, of the Spanish physicians of the early part of the seventeenth century, we recognize something that looks like our epidemic. *Bretonneau* also evidently witnessed a disease similar to ours. No one can escape this conviction who reads his descriptions. He, however, erred in regarding it as being identical with Croup.



The identity of Diphtheria and scarlet fever has also been suggested by several writers. Huxham and Fothergill witnessed, without any doubt, an intermingling of the two diseases in the epidemics they described, and it is this circumstance that has obscured their descriptions. During the prevalence of Diphtheria in our locality it has often been found in connection with several diseases, but especially with scarlet fever and measles. The following are points of contrast with scarlet fever :

Diphtheria affects all ages alike ; scarlatina is confined, as a rule, to children. The characteristic of Diphtheria is *false membrane* ; scarlatina is only occasionally attended with this. Diphtheria has no characteristic eruption ; scarlatina has. Diphtheria does not seem to protect the system against second attacks ; scarlatina does.

It is very questionable whether any thing in the way of clearness has been gained by Bretonneau's effort at nomenclature. The word Diphtheria expresses but a single feature, (*false membrane*,) not peculiar to the epidemic that he, himself, described, but present in disorders widely different. We have the membrane in aphthæ, in scarlatina, in putrid sore throat, in tonsillitis, in croup, and it may be produced artificially by aid of cantharides. The prerequisites for its formation, as far as any thing is now known, is inflammation of a mucus surface or the absence from a cutaneous surface of the epidermis.

The group of morbid phenomena that has had the name Diphtheria applied to it, is now very generally regarded as indicating a constitutional disease ; one, too, that may run its course without being attended with the least appearance of a membranous exudation. It is a *blood disease*, a real contamination of the blood, due, as there is pretty good reason to believe, to the agency of an atmospheric poison ; and, from the evidence already accumulated, contagious and infectious. In severe cases the membranous exudation makes its appearance at some point or other of the mucous or cutaneous surfaces, and becomes, among the other lesions of a case, the first in point of importance. From such facts, it is perhaps right to say that it is a very common tendency, in severe cases, of the constitutional affection to ultimate in the production of false membrane.

The character of this membrane has been, and is now, the subject of considerable interest. The exudation varies from a quarter of a line to two lines in thickness. In many instances it is a soft pulsatious mass ; in others it has a considerable degree of consistency—

chemically, it seems to be *coagulated fibrin*. The microscope resolves it into fibrillated texture, exudation cells, epithelium; and, in some specimens of the membrane, low forms of cryptogamic plants, *oidium albicans leptothrix*, *buccalis*. The membrane in Diphtheria is said to be distinguishable from other forms of exudation by the absence of blood vessels.

We see nothing special on the geography, topography, meteorology, etc., of Diphtheria. It has visited Asia, Europe, America, and the principal Islands. It prevails in high and low latitudes—in low and damp as well as in high and dry situations. At times it has prevailed as an epidemic; then, as an endemic, having been confined closely to a particular locality.

The works before us enumerate quite a number of complications and sequelæ. *Albuminuria*, first noticed in a case reported by Mr. Wade, of Birmingham, to the Queen's College, 1857, has been observed by others with some considerable constancy; though further research is necessary before we can ascribe to this symptom any positive value. *Paralysis* is a result frequently of Diphtheria. This affects very often the muscles about the mouth and larynx, giving rise to difficulty in swallowing, and impairment, and, in some instances, loss of voice. The paralysis also affects the neck and upper extremities. Impairment of vision, deafness, and nervous lesions, are sequelæ that not unfrequently make their appearance. "The nervous sequelæ of Diphtheria are not always in proportion to the severity of the previous illness, and do not occur exclusively after the severest cases, but sometimes follow comparatively mild ones. Their duration is uncertain, varying from two to three or four months, but the slighter affections may perhaps sometimes pass off in a shorter period than two months, and in all probability may be prolonged to the fourth month."

Bronchitis or pneumonia has frequently been noticed as a complication of Diphtheria. The presence of these troubles are of course denoted by the usual physical signs, and the expectoration of casts of the smaller bronchial tubes.

In this region Acute Rheumatism has occasionally been noticed as a complication, or perhaps rather as a sequel of Diphtheria. The rheumatic affection was characterized with the usual severe pain and swelling of the joints, the drenching acid perspiration, and the great excitement of the vascular system. In a few cases the *rheumatism* was itself complicated with *pericarditis*.

The manner of death in many cases, perhaps in the majority, is protracted, depending on exhaustion or long-continued impairment of the function of respiration. All, nevertheless, who have had much experience in the treatment of Diphtheria, have noticed, as a peculiar characteristic, the sudden death of patients. We take from Greenhow the following on this subject :

"Sudden death in patients the aspect of whose case is not alarming, or who appear out of danger, is a peculiar characteristic of diphtheria, and this circumstance has added greatly to the fear with which this disease has been regarded by the relatives of the sick and the public at large. One case of sudden death when the patient appeared to be improving has already been related (page 119,) and many others have fallen under the notice of my medical friends and correspondents. Mr. West has sent me the history of a young woman, aged twenty, who presented herself as an out-patient of the Queen's Hospital, Birmingham, suffering from diphtheria. She declined to enter the hospital, but continued to attend among the out-patients for three successive days, on each of which she walked a distance of a mile from her home for this purpose. The throat improved in appearance daily; but, notwithstanding this amendment, she became weaker, and returning home tired on the third day, she took some food and went to bed. She appeared very drowsy during the remainder of the day, was disinclined for exertion, refused nourishment, and continued in a dozing condition till the following morning, when she asked for breakfast. Whilst being lifted up to receive it she fell back fainting, and died before assistance could be obtained. Mr. Carr, of Blackheath, also mentions extreme suddenness of death as one of the most marked characteristics of true diphtheria, and adds that it occurs in an instant when the patient has the power of sitting up in bed, of speaking, and of swallowing.\* Mr. Ritchie, of Leek, had such a case, in which he had discontinued his attendance, the throat being well and the sick person apparently convalescent. The patient suddenly became worse; there was vomiting, the surface of the body was cold, and there was great depression without hæmorrhage or other ostensible cause. When visited the patient sat up in bed and answered questions, but then, having laid himself back and stretched out his arms, he died before the medical attendant left the room. Another case of which I have notes was that of a child who died in its chair immediately after being examined by the surgeon.

"Sometimes sudden death has occurred after patients were able to resume active habits, and may perhaps have been induced, by over-exertion, whilst in the very depressed anæmiated condition produced by the disease. A boy, aged ten years, who had been suffering from diphtheria for five days, although well enough on the previous evening to hold the surgeon's horse, died on the sixth day of his illness. A carpenter's apprentice, convalescent

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\* Second Report of the Medical Officer of the Privy Council, p. 309.



from diphtheria, went home to visit his parents, who lived at a distance of three miles from his master's house. On his arrival he took a basin of bread and milk, went to bed, and died suddenly three hours afterwards. A man-servant, aged sixteen years, who had been ten or twelve days under treatment for diphtheria, seeming to be convalescent, obtained leave to go home and see his friends before returning to his occupation, and there died suddenly.

"Dr. Bellyse mentions a case of this kind, that of a boy, aged ten years, who, having been ill nearly three weeks, had so far recovered as to be able to go out; and, on the day of his death, walked to a farm-house at a considerable distance from his home. About ten o'clock the same evening Dr. Bellyse, on being summoned to see his patient, who had been suddenly seized with violent pains in the bowels about an hour before, found him sinking from exhaustion. Although relieved by fomentations and other remedies, he died very soon after the visit. A post-mortem examination was refused.

"Indeed death, either from syncope or the accession of collapse, fatal in a few hours after exertion, has so often happened when patients have appeared to be recovering satisfactorily, that convalescents from diphtheria cannot be considered out of danger until some time after the throat is well, and the very marked anæmia produced by the disease has disappeared. It is true that death, whether sudden or otherwise, usually occurs within a few days; but sometimes as late as the sixteenth or seventeenth day of the illness, or perhaps even later."

Pretty nearly all who have had much experience now agree on the general plan of treatment. In Bretonneau's paper, as well as in the writings that preceded this, an active treatment, such as bleeding, both local and general, blisters, mercurialization, etc., very generally prevailed. A very different view now obtains. The disease is very generally regarded as asthenic, and as a consequence amenable to an opposite class of remedies—tonics, stimulants, and a sustaining course of diet. That such, however, without qualification, should prove to be applicable to every variety of case, is not to be supposed. The disease occurs in very opposite conditions of the system; in full phlogistic habits, as well as in those where the tone of vitality is low. In the former class, the treatment would differ very materially from the latter.

We have seen no plan of treatment suggested based directly upon rational considerations. It is true that we know but little of the morbid anatomy, or the pathology. The advent, all the premonitory symptoms, point out at once the introduction into the system of a specific poison which deranges solids and fluids. The blood, in the estimation of all, is, to say the least, charged with an

excess of fibrin; and, although this may not in the majority of cases be poured out on mucous or cutaneous surfaces, this accident in grave cases is the leading feature, and the gravity of the case is usually regarded as having a direct relation to the quantity of membranous exudation. What, now, are our means for preventing an excess of fibrin in the blood? or for avoiding a precipitation of this substance upon inflamed surfaces? Is the excess of fibrin in the blood the result of disintegration from the various tissues of which this substance is a normal element? If so, the vocation of the remedy is plain—something is needed simply to arrest this destruction of tissue. Or is the fibrin in the blood the result of perverted nutrition? Such questions cannot yet be answered.

In the absence, therefore, of anything like positive information concerning the essential nature of the malady, the treatment must, of necessity, be conducted on empirical principles. Anterior, as we have seen, to the time of Bretonneau, the active wasting plan obtained. The experience with the epidemic of our day is, however, largely in favor of the sustaining, strengthening plan. Both of the works before us, also, post up much evidence in favor of this plan, the result of European and American experience.

We have no time to consider treatment in detail. We agree with the authors we have been reviewing, that quite a large proportion of cases require little or nothing in the way of drugs. Care, patience, rest, the use of gentle laxatives and simple gargles, are the most of what will be required. The use of certain articles of the *materia medica* in this class of cases, however, has led to a number of therapeutic fallacies. Physicians have overestimated their sagacity and the value of medicines. In cases requiring medical interference, the tincture of sesqui-chloride of iron may be used throughout the course of the complaint, and is a remedy of undoubted value. The dose is from 10 to 15 drops every three or four hours. This preparation is also used as a local application to the fauces, either applied with a brush, or diluted and used as a gargle. Other preparations of iron, the vegetable tonics, hydrochloric acid, will be found useful in carrying forward the general indications of sustaining the system.

We find a diversity of opinion expressed in regard to local treatment. The volumes before us agree in the use of gargles in the early stages, as well as afterwards, where the throat is merely affected with inflammation. The artificial removal of the exuda-

tion by the probang, is, however, not thought to be beneficial. The membrane usually reappears, becoming thicker and covering a larger extent of surface. Occasionally, indeed, after the exudation has come away spontaneously it is followed by a second or third exudation.

In conducting the treatment, it appears highly necessary to avoid making abrasions of the mucous or cutaneous surfaces. This, of course, will render it improper to use blisters, cups, or any thing else that would destroy the epidermis.

During the acute, as well as the chronic stage, it is a matter of great importance to husband with a good diet the patient's strength. For this purpose beef tea, chicken-broth, arrow root, new milk, cream, eggs, etc., come into requisition. Convalescence in many instances is exceedingly tedious, months often elapsing and still the patient feeble. Under such circumstances, change of air and scenery, the use of wines and tonics, will often prove beneficial.

We have thus passed in review some of the more important points discussed by the works before us. Greenhow is an experienced chronicler of epidemics, and, with reference to diphtheria, all things considered, he has acquitted himself well. Dr. Slade writes his monograph with less experience as a writer, and with some disadvantage in the way of a geographical stand-point, our country having been only lately visited with the present epidemic; while, on the other side of the Atlantic, the period for observation has been much longer. Dr. Slade, however, presents a very valuable *resume* of the disease in America, and is entitled to the thanks of the profession, as well as to the "*Prize*" of the FISKE FUND.

Both of the monographs are nevertheless incomplete. They fall short in furnishing a good portrait—a full account—of the disease. Such a desideratum can only be expected after the complete demonstration has been made.

Greenhow's work may be obtained of Bailliere & Brothers, 440 Broadway New York. Price, \$1.25.

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*Thermo-Therapeia; or Heat-Cure.* By Mr. ERASMUS WILSON.  
London, 1860.

Some weeks since we had laid on our table a short monograph on the above subject, by Mr. Erasmus Wilson, the well-known



Author of "*Human Anatomy*," and "*A Treatise on Diseases of the Skin*," etc.

Somewhat acquainted with the author's performances in the departments alluded to, we were not indifferent to know what he had to say on "Heat-Cure," or the treatment of diseases by *hot air*.

This paper commences by reciting the well-known experiments concerning the degree of elevation of temperature that may be sustained with impunity; like, for instance, the experiments of Sir. F. Chantrey, whose workmen were accustomed to enter a furnace with a red-hot floor, the air of which was at a temperature of 350°; and those of the Fire-King, Chabert, who was in the habit entering an oven whose temperature was from 400° to 600°.

The author next reviews the history of the "Heat-Cure," giving us not only an account of the estimate placed upon it by ancient physicians, but also a description of the fixtures used anciently in the heating process, such as the *frigidariums*, the *caldariums*, the *calidariums*, the *sudatoriums*, the *vestariums*, the *cumberbunds*, the *calumbariums*, etc., etc.

The author details his views on the value of the "Heat-Cure" from the inspirations of a little self-experience. He went in the winter season, at a bitterly cold period, and subjected himself to the private "Thermæ" of his friend, Mr. Witt. The temperature of his first bath was 135° Fahrenheit. He states, "while within this hollowed nook, anxiety and care and fatigue, like the burden of Bunyan's Christian, seemed to fall from my shoulders. I stretched forth my limbs in peace and enjoyment, the brain seemed to think more lightly and pleasantly, and my ideas flowed brightly and calmly."

Mr. Wilson also states the effects of the hot air bath on his esteemed friend, Mr. Witt:

"My friend Mr. Witt in the course of a few minutes was streaming with perspiration, which ran down his face in rills and dripped from his elbows and finger ends in continuous drops. \* \* I was struck also with the rich and healthy complexion of his skin—it took its hues from the free circulation of the pure arterial stream through the capillary plexus of the derma—as he drew his fingers forcibly across his breast, the white traces left by their pressure were instantly replaced by the glowing vermilion of the arterial blood. There were no gorged capillaries in the skin; no venous

transformations in that cutaneous plexus; no deposits of unhealthy coloring matter, either in the cuticle or in the tissues beneath; no pallor, no excess and no deficiency of fat; no choked pores, no wrinkles from the loss of elasticity and contractility of the fibrous and omuscular structure of the crium; no abnormal sensibility of the nerves; all was as nature made it, perfect and beautiful. I looked for the first time in my life on a really healthy skin. \* \* \* The habitual use of the 'Thermæ' removes discolorations of imperfect eliminations by drainage through the perspiratory system, and while it gives health to the skin, bestows health on the entire economy."

Our author goes on to state that he has numerous examples of the value of the "Heat Cure" in the treatment of disordered blood, rheumatism, neuralgia, catarrh, bronchitis, cutaneous eruptions, burns, fever. He also, looking at the "Thermæ" in a social and political point of view, thinks it admirably adapted for the preservation in health of large bodies of men, as the men of our armies, prisons, poor-houses, factories and schools.

In bringing forward a new remedy, or reviving an old one, it may be necessary that the individual to whose lot this duty is committed, have on hand rather a surplus of credulity, and warmth enough of temperment to border pretty well on the enthusiastic. Such traits seem to be often required in order to get public attention. We were, nevertheless, not quite prepared for the exhibitions of feeling in the paper before us. The broad and philosophical method of considering things alleged to be curative, and the enlightened skepticism that ought to obtain until evidence is sufficiently ample, are nowhere present in the author's performance.

The remedy, all would say, is suggested by the author as being of too general application, good for too many complaints. Then, again, the complaints are widely different in character, as different as burns and typhoid fever.

As far as we now see, there are but few points of contrast between this "Heat Cure" system and what is known here as "Thompsonianism," or the "*Steam* system," patented in this country by Dr. Samuel Thompson some years since. In both systems *heat* is the agent, not only for the cure of diseases, but good, as an everyday means, for maintaining health. In one the plan is *dry* air, (calor siccus) in the other *moist* air, (calor humidis).

Has all of the author's knowledge of physiology forsaken him?

His suggestion that going daily into a bath of 136° Fahrenheit, or a temperature higher than this, during the cold weather of winter, as a means of avoiding catarrhs, coughs, etc., and of facilitating the various detergent processes, or, in other words, of preserving the status of health, will strike right-minded men everywhere, we would suppose, with surprise. Is not the skin in each of the races of mankind organized to suit the climate that the race inhabits? If not, how explain the speedy death of an Esquimaux when taken to tropical regions, and the same result as regards the negro, when subjected to the continuous cold of the arctic regions? Then, again, is it not physiologically right that the sweat glands remain comparatively passive in temperate latitudes during the winter season? If so, why disturb them with hot air? Why, indeed, goad them into excessive action by artificial means of any kind? Nature seems, during the winter, to withdraw the skin from active duty; and shall we not, in our efforts to promote health, heed her example?

The paper before us has been written on small capital, so far even as experience on the part of the author is concerned. On this account we grant quarter to him for the present.

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*Compendium of Human Histology.* By C. Morel, Professor Agregé a la Faculté de Médecine de Strasbourg. Illustrated by Twenty-eight Plates. Translated and Edited by W. H. Van Buren, M.D., Professor of General and Descriptive Anatomy in the University of New York, etc. Published by Baillière & Bros., Broadway, No. 440, N. Y. 1861.

Prof. Van Buren has placed the profession of this country under obligations to him by his translation of this work. Although not as elaborate as several works of the kind already published, yet, owing to the excellence and fidelity of its plates, and the clear and concise manner in which all that is positively known of the science is set forth in the text, the work is admirably adapted to the wants of the student.

The department of anatomical science most progressive at the present day is *Histology*. It now forms the basis of modern physiology and pathology; but still it is in its youth, and the number in this country engaged in its cultivation is entirely too small. It is



to be hoped the present volume, which presents the subject in a very attractive form, will stimulate more attention.

On "*cell-development*" we extract the following:

"Every cell must derive its origin from a previously existing cell. In the present state of science but two modes are known in which cell-generation is accomplished in human histology—*indigenous* generation, and multiplication by *cleavage*."

From this it seems the author sides with those who deny the doctrine of *free* cell-development, or the development from a homogenous fluid. Kalliker is rather of the same opinion, though he does not know how to account, without some such theory, for the development of the chyle, lymph, splenic, and thymus gland corpuscles. He thinks the free cell-development theory, however, applicable in an eminent degree to pathological productions, as, for example, to the cells in pus and exudations of all kinds.

The doctrine of *free* cell-development, although adopted by our late authors, Peasly (Human Histology) and Leidy (Human Anatomy), is scarcely tenable. Indeed, the evidence in its favor amounts to but little, unless it can be shown that the first-formed particles that make their appearance in animals cannot have derived their origin from pre-existing formed particles, either by the detachment or fission of the latter. How is it possible to determine that the corpuscles, granules or nuclei are not in a given case derived from the blood, or from the tissue of the part where they are found?

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## Editorial and Miscellaneous.

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### *Commencement of Starling Medical College.*

The commencement exercises of Starling Medical College took place on the evening of the 28th of February, in the Westminster Church of this city. The Annual Address was delivered by *Dr. James Hogue*; the Valedictory by *Prof. T. G. Wormley, M. D.*

The degree of Doctor in Medicine was conferred on the following gentlemen—names of Theses appended:

B. F. Culver, Use of Mercury in Inflammation; A. E. Isamin-

ger, Report of a Case; Jas. P. Welch, Amenorrhœa; Joshua Worley, Diphtheria; A. F. Smith; Scarlatina; W. A. Bivans, Typhoid Fever; R. L. Murch, Pneumonia; Jas. M. Foster, Relations between Body and Mind; C. R. Klein, Diphtheria; P. A. Willis, Fracture of Femur; William Watt, Iron as an Antidote to Arsenic; J. N. Ellsberry, Diphtheria; N. Wheat, Acclimation; J. M. Hall, Pneumonitis; O. G. Field, Medical Ethics; J. N. Lee, Delirium Tremens.

These exercises closed up the fifteenth Course of Lectures in this Institution. Its friends have been gratified in witnessing lately some very efficient efforts in getting up a museum and facilities for teaching. These efforts will be continued, and the Faculty of the college take this opportunity to express thanks to those physicians who have contributed to the museum heretofore, and hope when any thing worthy presents in the future, that it will not be forgotten. Pathological specimens will always be very acceptable, as well as rare normal specimens in any of the departments of nature.

A *Summer Course* has been instituted, to which students who attend the subsequent winter course are admitted free of charge. This is an approximation to what obtains in England and on the Continent of Europe. The student by this arrangement may spend eight, out of the twelve months, if he thinks proper, in attending lectures. We invite those having charge of the education of young men for the medical profession, to this arrangement. To say the least, no one can resist the conviction that the measure affords a guaranty for a higher order of qualifications. The ensuing summer course, as may be seen by the advertisement, commences the 1st of April, and continues to the 1st of July.

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DR. L. M. LAWSON having returned to Cincinnati, will continue the practice of his profession as usual.

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WAYNE COUNTY MEDICAL SOCIETY OF IOWA.—We are very happy to notice that in the far west the disposition to organize Medical Societies and support them keeps pace, *pari passu*, with the energy of the people in everything else. It gives us, too, special pleasure to see the names of our old students in connection with such enterprises.

The following officers were elected to act until the first Monday in January next :

Dr. John Boswell, President ; Dr. A. G. Field, Secretary ; Drs. Payton, Field and Hatton, Censors.

It was then agreed that each of the following gentlemen should deliver a course of lectures upon the subjects respectively affixed to their names :

John Boswell, M. D., General Therapeutics. Daniel Payton, M. D., Human Physiology. Dr. John Hatton, Theory and Practice. A. G. Field, M. D., Human Anatomy.

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BOOKS RECEIVED.—Transactions of the American Medical Association for 1860.

Practical Treatise on Phthisis Pulmonalis, by L. M. Lawson.

Diseases Peculiar to Women, by Hugh L. Hodge, M. D.

Epitome of Surgery, by Breadnell Gill, M. D., House Surgeon, lately of London Hospital.

Diseases of the Lungs, by Walter Hayle Walshe, M. D., Leidy on Human Anatomy, O'Reilly on the Placenta, &c., have been on our table for several months, and are also laid over for future review.

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NEW MEDICAL JOURNALS.—The Baltimore Journal of Medicine, edited by Prof. Ed. Warren, M. D., bi-monthly.

The Berkshire Medical Journal, a monthly, edited by Dr. W. H. Thayer and Dr. R. C. Stiles, Professors in the Berkshire Medical College.

Medical Journal of North Carolina, published under the auspices of the State Medical Society, edited the present year by Dr. C. E. Johnson and Dr. S. S. Satchele.

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SIR BENJAMIN BRODIE.—This distinguished gentleman lately underwent an operation for the extraction of cataract. The profession is aware that Sir Benjamin has been afflicted for some time with disease of the eyes. It is to be hoped that he is now relieved. The progress of the case was favorable at last accounts.



OHIO State Medical Society holds its next annual session at White Sulphur Springs, commencing second Tuesday in June.

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It is a rule in Paris, that all surgeons who hold position in the hospitals by appointment from government, shall resign on attaining the age of sixty. Ricord, whose fame is coextensive with medical science, was born in December, 1800, and has reached the age when it became necessary for him to retire from the Hôpital du Midi, where he has observed and taught for thirty years. Before the day arrived for his legal retirement, Ricord resigned the chair, which has since been filled by the appointment of M. Cusco.

The friends and admirers of this renowned syphilograph united in an expression of respect, by giving a banquet to his honor, which came off at the Hôtel due Louvre, on the 27th December. A writer in the *Union Medicale*, in describing the scene, calls it an ovation, and thus enthusiastically gives the result of his impressions—a magnificent, charming fete.—*Amer. Med. Monthly*.

The correspondent of the *Lancet* describes the occasion as follows :

*Parisian Medical Banquet*.—The banquet given to M. Ricord by his *confreres* came off on Thursday the 27th ult., at the Hôtel du Louvre. The great dining-room of this establishment, itself one of the lions of Paris, afforded hospitality to about 200 members of the medical profession, who assembled for the double purpose of doing homage to the great syphilograph and justice to a very copious and *recherche* dinner. A more cosmopolitan gathering it would have been difficult to collect; for although the French element did, in the main, predominate, yet Great Britain, Germany, Sweden, Russia, Greece, Italy, the United States, and South American republics, were all duly represented on the occasion. Strange to say, that with one honorable exception, none of the Professors of the Faculty of Medicine were present to take part in the public expression of regret conveyed to M. Ricord on Thursday evening. The exact meaning of this negative demonstration on the part of the members of the official medical school of Paris, in a sense hostile to the great syphilograph, is not very evident. Jealousy, arising from professional rivalry, is stated by some as being concerned in the matter. The public consequently will regard the absence of the Faculty from the banquet of Thursday but

as another instance of personal animosity and narrow-minded ingratitude, assuming an official disguise for the indulgence of a petty feeling of revenge. The honorable exception referred to was, I need hardly say, M. Trousseau, who, following the impulses of his manly and independent character, seemed by his presence to protest against the unjust neglect of his colleagues. Owing to the absence from indisposition of M. Gubler, the honor of proposing the health of M. Ricord devolved upon M. Amedee Latour, editor of *L'Union Medicale*, who, in an excellent and effective speech, paid a flattering tribute to the man through whose single-handed exertions the "enseignement libre" had so effectually distanced the "enseignement officiel." Next followed M. Diday of Lyons, one of the most devoted supporters of the Ricord doctrines, and editor of the *Gazette Medicale*, of that city, and with Mr. Costello, who addressed the company in English, and represented the "grateful and admiring" foreigner generally, the complimentary discourses concluded, when M. Ricord rose, and with considerable emotion replied—"I can give no better rejoinder to all I have just heard, to all the flattering terms which you have in the warmth of your friendship applied to me, than by the expression of my most heartfelt gratitude. Your intention has been by this splendid *fete* to recompense thirty years of labor, of hospital service, and clinical teaching. In no other manner could you have fulfilled your own wishes and gratified my feelings. \* \* \* I see around me my well-beloved pupils, the elders amongst them already professors, and the juniors following in their steps with giant strides, and holding out promise of a brilliant future. In presence of such disciples, I feel that I can safely rest on my oars, well assured that you will finish whatever may have been left incomplete in the work we have begun together. Amongst the friends present to whom I would especially express my gratitude, let me name the worthy representatives of the press, that great bulwark of our interests, both scientific and professional. Amongst you, it is true, I have occasionally encountered most powerful antagonists, but much more frequently warm and generous supporters. \* \* \* In terminating this toast let me cite two lines of Pope, which I used when a young man as the motto for my inaugural thesis, and the truth of which you have often proved to me—

"Man, like the generous vine, supported lives,  
The strength he gains is from the embrace he gives."

To you all, then, my dear friends and *confreres*, who have attached yourselves to me, and who have always supported me, let me express my thanks, my eternal gratitude, and unalterable friendship."

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THE SECOND DEGREE.—At the recent meeting of the Medical Society of the State of New York, the Committee on Medical Education reported in reference to the second degree. We most heartily agree with all the committee say in regard to the necessity of a more thorough education, an extension of the term of study, as well as the courses of lectures, more strict requirements regarding a good preliminary education, etc. Yet, we cannot perceive the correctness of the logic with which the committee oppose the so-called "Second Degree." The two chief arguments are contained in the following sentences of the report :

"As regards the argument of the necessity of a second degree, because of so many irregular practitioners having assumed the title *Medicinæ Doctor*, to refute it, it will be only necessary to ask why, if the first degree has been so freely seized upon, may not the second and higher degree be equally easy and freely assumed ?

"There will be active advancement or elevation of the standard of medicine, unless the reform commence with the course of education itself, instead of with the degrees conferred, which degrees, like the coin stamp, may be impressed upon the base metal as well as that which has the true ring of gold."

In regard to all this, we have to say :

1. The title of *Medicinæ Doctor* has not only been *assumed* by many irregular practitioners, but it is actually *bestowed* upon them by chartered schools, regular and irregular, according to law. Hence, the question is not one of mere individual "assumption," but of *legislation*.

2. The very fact that "M. D." has been so freely "*seized upon*," and, we may add, *bestowed*, and the impossibility to have a uniform high standard adopted by those who bestow the title, regular and irregular, renders it desirable that there should be a second title, emanating from an incorruptible source, whence it will be impossible to be seized upon so freely, and whence it will not be bestowed except to those who deserve it.

3. The source from which the title should emanate must be impartial, connected with no private or personal interests, be removed from all legislative and political influences, and REPRESENT THE



PROFESSION. Such a source would be the American Medical Association.

4. Coming from this source, the higher degree will neither be equally easy and freely assumed, nor will it be unworthily bestowed.

5. The committee are most unfortunate in their illustrations. The very fact that the coin-stamp may be impressed upon the base metal, and that so much spurious coin is circulating, shows the imperative necessity of having a standard ASSAY OFFICE, which may examine all the coin, and countersign, by the new title, that which has the true ring. We cannot afford to wait till the counterfeiting establishments are all broken up, or the counterfeiters morally reformed. This must be the work of time. Meanwhile, let the American Medical Association establish the "ASSAY OFFICE," and, unless weightier objections are advanced than those of the New York Committee, let us have the second degree.—*Phila. Med. and Surg. Rep.*

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DIPHTHERIA.—Dr. Asa Horr, of Dubuque, Iowa, writes as follows to the editor of the *New York Medical Times*:

Diphtheria has been prevalent in this vicinity during the past six months, and the cases of late seem rather increasing in frequency and severity. Children from two to ten have been the principal subjects of attack, although infants and adults have occasionally suffered from its mildest form. It seems to have no necessary connection with scarlatina, often preceding or following, and sometimes co-existing with it. In most instances, the affection has been very mild in character, but sometimes has proved rapidly fatal.

The treatment most generally pursued has been chlorate of potassa internally, cauterization with nitrate of silver, cold cloths and anodyne embrocations to the tumefied cervical glands, and the free exhibition of stimulants and tonics, with liberal diet throughout the disease. The writer has used with good effect chlorate of potassa in *tar water*, for the removal of the fœtor and the detachment of diphtheritic incrustations. It was administered internally, used as a gargle, and also for a nasal injection. In some of the severest cases of late, Prof. Woodward's mercurial plan has been resorted to with satisfactory results.

The following letter, on the same subject, is from Dr. J. W.

Bright, of Lexington, Ky., and is published in the *St. Louis Medical and Surgical Journal*:

I received your letter a few days since, requesting my mode of treating diphtheria. In reply, I would say, I give the muriate of ammonia in full doses—say, to a child eight years old and upwards, ten grains every two hours (in solution), and ten drops of the sesquichloride of iron in the intermediate hours, and these are not to be omitted for thirty-six hours; then rest four or five hours, and give them again in like manner. Continue this treatment for four or five days, according to circumstances; but at first cleanse the stomach with a gentle purgative, if the bowels should not act, once in twenty-four hours give castor-oil and ol. terebinth, one ounce of the former to one ounce of the latter. If the diphtheritic crust forms, or has formed to a great extent in the throat, remove it with a fine sponge tied on a stick; the sponge should be wet with a solution of the pure nitrate of silver, forty grains to the ounce, or the sulphate of copper, one scruple to the ounce of water; this should be used only once a day. The cure should be completed by the use of tonics; I have found beeberine the best; diet nourishing.

I have treated three hundred and thirty-four cases after this method without the loss of one, and am now fully satisfied it is the proper mode of treating the disease.

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UNICORN UTERUS.—Twelve cases have been collected by Prof. Kussmaul, (*Heidelberg Verhandl., V.*) They allow the following conclusions: Menstruation is the same as with a normal shaped uterus. Sterility is not a necessary consequence of the deformity, but is, when present, dependent upon some other abnormality; for instance, occlusion of the oviduct. The developed horn, as well as the rudimental one, may admit the reception and development of an impregnated ovum; but this will not take place in the rudiment, except when no communication exists between it and the other part. It is probable, however, that this communication is shut up by the pressure of the dilated vessels and the decidua. Women, with a unicorn womb and one ovary, may give birth to numerous children of both sexes, as observed by Chaussier. This fact destroys the old theory that the sex of the fœtus is dependent upon the ovary. The unicorn uterus does not prevent repeated gesta-

tions, and may even retain twins up to the full term; it does not cause abortion, if not combined with other conditions. The impregnated rudimental horn, on the other hand, is always liable to rupture, which usually occurs in the apex. The condition of a woman with a unicorn womb, during pregnancy, depends on the individuality. Delivery after gestation, in the developed horn, has never been attended by particular difficulties. Where the fœtus was contained in the rudiment, the case has been almost always mistaken for tubal gestation.—*Vierteljahrschr., Cin. Lan. & Obs.*

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FUNIS PRESENTATION TREATED SUCCESSFULLY BY THE POSTURE METHOD.—Dr. S. Brandies, of Louisville, publishes three cases of prolapsus of the funis, once alone and twice together with one hand, in every one of which he managed to save mother and child by the method recommended some time ago in the *Lan. & Observer* by Prof. Mendenhall, to-wit: placing the woman on her elbows and knees, elevating her pelvis, then replacing the prolapsed parts and keeping them within the cavity of the womb until the head descends far enough to prevent further mischief. From a table added to the description of these cases, and comprising 177-184 accouchements, collected from the highest authorities, prolapsus of the funus is found to occur about once in 264 deliveries. The same authors testify to a mortality among the children so born of one in 182, thus showing clearly enough, that accouchers have not been very successful in treating this kind of labor.

The posture method is only admissible as long as circulation exists in the funis; even if the circulation is feeble, it may soon be restored after the impediment is removed. The os uteri must be sufficiently dilated, and the liquor amnii partly retained. When the liquor has all escaped, and the uterus is firmly contracted over the child's body, every effort for the reduction of the prolapsed funis will be in vain.—*Louisville Med. Jour.*

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WOORARA.—Dr. Vella, the physician who applied this substance in a case of tetanus on the battle-field of Magenta, reports to the *Academie des Sciences* a number of experiments made by him to establish its value as a therapeutic agent. He claims that woorara, besides being a sovereign remedy in tetanus, is almost an antidote for strychnia, to which conclusion he has come from his experiments upon dogs.—*Seance du.*



THE LOUISVILLE MEDICAL NEWS.—We have just received the December, 1860, number of this journal. With this number the *Medical News* ceases to exist. Cause: want of *paying* subscribers. It is also several months since we heard anything from the *Louisville Medical Journal*, and we begin to fear it, too, has come to an untimely end. With men of decided editorial ability, with abundant material for sustaining a first-class medical journal, it is a great shame that the friends of *medical journalism* in Kentucky have not exerted themselves with more zeal for its support; at *least* one good medical journal should be sustained in Louisville, and *well* sustained. We part company with Dr. Benson with sincere regret.—*Cin. Lan. & Obs.*

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ON THE REGENERATION OF NERVES. BY OTTO HJELT.—In this paper, which is accompanied by very beautiful illustrations, the author does not agree with Waller in believing that the process of regeneration in divided nerves is to be regarded as a new growth of nerve tubes, proceeding from the central end to the finest peripheral branches. He finds the process to consist in an excessive production of nuclei in the central as well as in the peripheral portion of the injured nerve. This nuclei-development causes the swellings upon the ends of the divided nerves. The nuclei unite by processes so as to form a regular network of long rows of nuclei connected to each other. These nuclei belong to the connective-tissue lying between the tubes. All do not unite to form this net-work, but many undergo a process of fatty degeneration. The processes connecting the longitudinally-arranged nuclei become broader, their contours more distinct, and a differentiation of sheath and contents occurs. The nuclei now appear as varicose swellings on the young nerve tubes, whilst these become more and more indistinct. The contents are granular, and next the sheath of the tube a clear marginal layer is deposited. The same process occurs in both of the nerve ends, but it is most active in the central one. The author supposes that a great part of the old nerve tubes unite with these newly-formed fibres. He has never met with newly-formed fibres in the course of the peripheral distribution of nerves from which a part has been cut out; but he has seen primitive nerve fibres in a more or less advanced state of fatty degeneration. These latter fibres have probably not had

their connection with the new fibres established. An exudation deposit Hjelt has never seen. The essential part of the process consists in an excessive formation of nuclei, a connective-tissue formation proceeding from the nuclei of the neurilema. "Since Virchow first proved that cell elements occur in the connective-tissue, he has only described the changes which these may undergo without changing\* their essential character, but he has also shown convincingly that it is to these cell elements that new formations of different kinds owe their origin."—*Edinburgh Medical Journal*, from *Archiv für Pathol. Anat. und Physiol.*

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THE ACT OF PENNSYLVANIA REGULATING THE SALE OF POISONS.—The attention of our readers is directed to the communication at page 117, in relation to the law on the sale of poisons. It will be there observed that according to the construction of the law, by a member of the bar, the liabilities of apothecaries and others who retail poisons, is much greater than at first was supposed, and that difficulties may occur in which the apothecary, with every intention of doing right, may get himself into trouble. We do not believe this mode of construing the law would be upheld by a jury, as against an apothecary, in a case that was reasonably within the usual action of physicians. We believe every apothecary who has a just regard to his reputation would hesitate to put up the prescription of a well known physician, which, from its deleterious character, might do mischief, and therefore he would be much less likely to do it on a false one intended for illegitimate purposes. The law does not say that the dispenser shall know the writer of the prescription. For the same reason that we do not justify an apothecary in dispensing a genuine prescription that evidently conveys the probability of error on its face, we do justify him in putting up a properly drawn prescription that conveys the probability of correctness, though it prove to be not written by a graduate. The law does not define who is a physician. The same power that made the law, grants the authority under which Eclectics, Homœopaths, Veterinary Surgeons, and other irregular practitioners practice medicine, and it would hardly intend to confine the right of prescription-writing to the regular practitioners of medicine.

Further, we do not agree with Mr. Bonsall in believing that the law applies to the regular preparations of the Pharmacopœia in which any of the five prescribed poisons may be used—as Fowler’s Solution, Laudanum, Syrup of Wild Cherry Bark, Tincture of Nux Vomica, etc., else it would be necessary to label those preparations “Poison,” when prescribed by a physician, a course which would hardly be approved by the Faculty. In relation to the meaning of the expression “personal application of some respectable inhabitant of full age,” we feel more doubt—and would be glad to know whether the law really means that the head of a family only is an eligible person for a purchaser of poison, who has no power to delegate his right to a servant, however well known the latter may be to the seller of the poison. If this be so, the apothecary should know it—because by far the larger portion of corrosive sublimate that has been sold for legitimate purposes to housekeepers, has been obtained by servants with or without a written request for the same from employers, the servants being of full age and known to the apothecary. Should such quibbles and strainings of the letter of the law be, as has been suggested by Mr. Bonsall, capable of being sustained before a jury, it is high time that every apothecary was awake to the risk he runs in the conduct of his business.

We believe the only really valuable feature of the law, ‘over and above the ordinary care of a respectable apothecary, is the requirement to keep a regular register, full and clear, of the several sales of poison. To us the law points in its spirit chiefly to criminal poisoning, and is intended to aid the cause of justice and to caution the dispenser.—*Am. Jour. of Pharmacy.*

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TRUE IN THE END.—Homœopaths make this boast—that the “Allopaths” dispense medicines, and they dispense with it. This may be partially true, owing to their losing their patients so very quickly.—*Punch.*



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## Original Communications.

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### *Occlusion of the Cervix Uteri from Inflammation, and Recovery.*

PROF. HAMILTON—*Dear Sir*:—In compliance with your request, I will endeavor to communicate to you a few of the particulars in regard to the case of Mrs. B——, to whom you were twice called to advise or operate, for occlusion of the cervix uteri.

Mrs. B——, 22 years of age, of previous good health, was confined for the second time July 20, 1859, after a tedious labor of forty hours, delayed in consequence of a thin, rigid, undilatable cervix. No unusual prostration or hemorrhage followed delivery. The lochia stopped in a few hours, and returned again on the third day, in the form of large clots, expelled by severe after pains; ceasing in a few hours again, they returned about the third day as before, and in the same manner; and they continued to do so for five or six weeks, diminishing in quantity each time, till they terminated in a slight sanious discharge. My patient still keeping her bed, in consequence of great weight and bearing down in the pelvic region when she attempted to sit or walk, I examined the state of the uterus digitally, and by the aid of the speculum, I found the cervix and the entire body of the uterus enlarged, considerably indurated, very tender, prolapsed, and a deep fissure occupying the angle formed by the anterior and posterior lips of the os on the right side.

regarded this fissure as the cause of the morbid manifestations,

and resorted to laxatives, hip baths, vaginal injections of astringents, (alum, etc.,) cold water, counter irritation, and, unfortunately, perhaps, to the use of the nitrate of silver in the solid form. In about two months time the fissure disappeared, the os remaining dilated and showing positive evidence of ulceration within the cervical cavity. I now passed the caustic within the os about once a week, and continued the other remedies as usual. After pursuing this treatment five or six weeks, and finding my patient not improving, I stopped using the nitrate of silver altogether, and substituted lint well saturated with the mucilage of elm bark, to be applied to the irritated and inflamed parts several times a day. Immediate relief to the local, as well as the general, symptoms followed.

In about ten days the hitherto expanded os appeared greatly contracted, and was with difficulty penetrated by the sound; and, in ten days more, the os could not be penetrated at all; the sanies had stopped, and the inflamed parts assuming a more healthful appearance. As the enlargement and induration disappeared, it became very difficult to recognize the cervix by the finger, and seemingly not at all by the speculum. Recognizing the nature of this new trouble, I consulted Prof. S. M. Smith, of Columbus, O., in regard to the matter. He advised waiting the return of the menses before surgical interference, hoping that pointing and fluctuation would occur to indicate more clearly the point for operation. My patient's health had so much improved by February, 1860, that she was able to be up and about the house, and continued to improve until you saw her in October following, when symptoms of returning menstruation began to appear.

Menstruation, however, did not come on till the middle of November following, nearly a year after the occurrence of the occlusion. The accumulation of the menstrual fluid within the sealed-up uterus caused the most intense suffering, bringing on severe uterine contractions every few minutes, which lasted for forty-eight hours. The cervix and uterus expanding accommodated themselves to their contents, gave relief. The patient enjoyed comparative comfort till the 16th of December following, when the returning menstrual flux renewed her sufferings. The distress this time was even greater than before; the severest uterine pains, of a piercing, tearing character, accompanying the expansion of the uterus. Notwithstanding all efforts for relief, the suffering continued for

thirty-six hours, when, to my surprise and gratification, the occlusion gave way, the contents of the uterus escaping with a gush. The patient experienced immediate relief.

Upon introducing the speculum a few days afterwards, I had no difficulty in recognizing the os, or including the cervix. The lips of the os were well defined, but still sealed together, excepting at one point, where the intervening structure looked as though it had been punctured from within outward. As near as I could determine with a sound, the extent of the adhesion was between an eighth and a quarter of an inch. Since that occurrence, my patient has felt quite well, and attends to her own household duties. She menstruates regularly, and without any morbid manifestations—more than the flux is somewhat prolonged. I examined the cervix quite lately by the aid of the speculum; found a little tenderness, cervical enlargement, and the os somewhat contracted from remaining adhesion, but larger than when first observed; no tendency to re-union; a little purulent matter was brought out on the end of the sound from just within the os.

In communicating the particulars of this case, I have simply kept in view—1st. The cause of the uterine and cervical inflammation, viz: probably laceration of the cervix during labor; 2. The cause of the occlusion of the os. Was it in consequence of injuries received during labor, or from the injudicious use of the nitrate of silver? And, lastly, nature's method of relief; will such a result always follow, and thus save surgical interference?

Yours, etc.

W. J. BALLINGER, M.D.

PLEASANT VALLEY, Madison Co., O., April, 1861.

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*Tannic Acid as a local remedy in Diphtheria.* By S. S. SCOVILLE, M.D., Bethel, Ohio.

Much is being said and written with regard to local remedies in this disease, and probably if it were not for this fact, I would have nothing to say. My experience in the treatment of diphtheria has been quite limited; nevertheless, I feel much gratified as to the result of some fifteen or twenty cases which I have treated during the last six or eight weeks.

I have used the tannin in every case, and when applied to the



throat early in the disease, no malignant or very alarming symptoms made their appearance. And not in a single case, where from neglect the disease became aggravated, has the remedy failed to be highly beneficial in from twelve to twenty-four hours—the peculiar exudation or false membrane disappearing from the tonsils and neighboring parts; the fetid breath corrected; cough becoming less urgent, and patient swallowing with less difficulty.

I use the tannin in solution, of the strength of from 10 to 20 grs. to the ounce of water, owing to the severity of the attack; and apply it to the throat every three or four hours, by means of a swab or probang.

The age of the youngest patient of eighteen treated, was six weeks; the oldest, 44 years; average age about 6 years. Duration of disease, or rather time that medical attention was necessary, six days; relapses, two; deaths, none.

With regard to the general treatment—"the case made the remedy." However, sulph. quin. and chlo. pot. were used in almost every case, but the quinia was not often given until the acute symptoms began to disappear.

Besides the eighteen cases given above, I have seen quite a number of mild ones—indeed so mild as to require but little attention, more than a few applications to the throat, of the sol. tannin. These cases were spoken of by the people as "the sore throat."

Now, February 10th, diphtheria is subsiding, and with the most recent cases there has been a complication with pneumonia, the diphtheritic symptoms generally disappearing in three or four days, when the trouble in the lungs would become worse, and no other symptoms than those attending simple pneumonia would be manifested, though the case would be protracted beyond the usual period of this disease.

While, from my little experience, I regard tannic acid as one of the best local agents in diphtheria—it having, as I believe, contributed much to the cure of my patients—there are cases in which it would prove of little value: I mean in cases of young children, where the disease becomes croupy by the exudation forming rapidly and extending far into the trachea.

*Hybridity.*

All the races of man are prolific, as far as anything is now known. A mixture of the whites and negroes, give rise to Mulattoes; the Dutch colonists of South Africa, and the native Hottentots, give rise to the Griquas; the native Americans of Brazil, and the Africans, give rise to the Cafusos; the Malays of New Guinea, and the African, give rise to the Papuos. While this fecundity is admitted as a fact, it is contended that it is a false fact; that in order to have any force, it requires to be proven that the offspring of the whites and Africans is permanently capable of reproducing itself—of becoming a separate race, with the forces of the primitive stocks. It is said, all observation teaches that such is not the case; that Mulattoes, Capuas, Griquas, etc., are unable to multiply *inter se* beyond the third generation; that the sturdy convict population expatriated by England to Australia, failed in their intercourse with the native females, not merely to produce an intermediate race, but to leave behind them more than one or two adult specimens. Such facts, it is claimed, establish partial hybridity, as the result of union between races strongly contrasted. The mongrel races being unable to continue their existence, being in a measure unprolific, they are also in a measure hybrids.

These views have been supposed to derive plausibility from what has been observed with reference to inferior animals. Species here that are acknowledged to have fully developed all of the attributes of species—the Dog and Wolf—are different species of animals, as naturalists agree; they are, however, prolific on the first crop, but become sterile after the third generation. The Dog and Jackal run as far as the fourth generation, and then in like manner become sterile. These are discoveries made by Flourens, from a series of experiments made in Paris.

Such facts place the subject of hybridity, as a test of species, on grounds very uncertain. In the law of hybridity there seems to be degrees varying from prolificacy to perfect sterility. The cross of the pure whites and blacks affiliate less perfectly, and make a worse progeny, than does the cross of Portuguese, Malays, and other dark races with the negro.

PHYSICIST.

## American and Foreign Intelligence.

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[From a Report by H. P. Ayers to American Medical Association.]

### *Cretinism.*

Cretinism is the most abject and lowest form of idiocy, generally found in connection with goitre.

We instinctively shrink from the contemplation of anything more humiliating to our proud natures and aspiring souls than is found in the poor idiot. Nothing but the highest order of philanthropy would tempt a full contemplation of all the grades of idiotic manifestations found among our fallen humanity. Nothing but the highest order of philanthropy, imbued with a godlike love for the race, could induce any one to enter the ranks of those who have devoted their lives to the task of ameliorating, by education, this helpless portion of the human family.

After examining the phenomena connected with the condition of the idiot, the heart sickens with the contemplation of the miserable condition of the cretin. We shudder to review the carnage and sufferings of war; the shrieks of death, and the laments of the wounded; or gaping wounds on famished forms; we sympathize with abject wretchedness and poverty; our commiserations are sent wherever distress and suffering abound; but in all such cases of suffering there is an end; hope may beam on all sadness tomorrow; but with the cretin no ray shines upon his future. His soul, locked in its almost insensible prison, has never quaffed one draught of intellectual knowledge. A state of forgetfulness overshadows it, and it lives in semi-annihilation, a disgusting and forbidden object. The dying in war may be forgotten; the poor may rise above his poverty; the wretched may be relieved from his wretchedness; hope may spring up in the darkest night of human adversity, but to the cretinic idiot's mind few rays of knowledge ever find their way, while a hopeless gloom and darkness gather thickly around them. But this appalling chaos is not all. To the darkness of the mind is added the deformity of his physical organization. Low in stature; a distorted spine; a narrow asthmatic chest, with a ponderous belly; distorted, sluggish and heavy eye; a brutish forehead; a slaverling, fetid, disgusting mouth; a projecting, repulsive, goitrous neck; pendulous and dandling arms; crooked and staggering legs, a shuffling and tottering gait, if move they can; inhuman in contour, and misshapen in organization, they appear a repulsive, innominate phenomena in God's creation.

Cretinism differs from simple idiocy in the fact that it is confined to localities, while idiots are coexistent with the human family.



Idiots may have a perfect symmetry of body, while true cretins always have a deformity. Various names have been used for the purpose of designating cretinism.

Dr. G. S. Blakie, in making a quotation from another author, remarks with the quotation: "By the word cretin, we understand a being deformed and distorted, an abortion of man, peculiarized by a pale, leaden color of the face, by a flaccidity of the flesh, and unexcitable nature, and extraordinary amount of laziness and inactivity, and inability to speak or utter articulate sounds, and generally with very large goitres, a circumstance which has led to a much misunderstood connection of the two complaints. Cretinism may be looked upon as being the highest state of idiocy, although it differs from it in having a vitiated state of the body, in conjunction with the loss of the faculties of the mind. Thus it is composed of two distinct elements: the one, idiocy; the other, bad habit of body."

#### NAME.

The derivation of the name is obscure. M. Virey, in the *Dictionnaire des Sciences Médicales*, derives it from Chretien, because, he says, "the individuals affected with cretinism (and called also Cazots) are simple and humble, and are revered as very pious personages in the valley of the Alps!" In Switzerland they are called Cretins (a corruption of the French "Chretien," Christian), from the idea that they are incapable of sin.

The Turks, he adds, honor idiots from the same cause. Dr. Blakie says: "I am not inclined to favor his derivation, but would rather uphold the following: The inhabitants of the countries in which cretins are found invariably pity, and talk of them as 'poor, unfortunate creatures!'

"The term 'elendes Geschöpf' is universal where the German language exists. This term I find to have come probably from the Canton Valais, where they are spoken of as 'cretin' and 'créateur,' and, indeed, the word 'créatur' is frequently applied by the Germans also. From this we may conjecture that the word 'cretin' is derived from the Latin 'creatura,' and a connecting link between the two is afforded us by the Romansch, that extraordinary language of the Grisons, the nearest step to ancient Latin now existing, in which the name is 'cretira,' having exactly the meaning of the German 'Geschöpf.' Thus we form creatura, cretira, cretin. The name cretin has been adopted in the English and German languages, but there are other provincial names by which they are known, all having a similar meaning, and derived from some peculiar feature in their appearance. Thus, for example, in Corinthia, they are called 'Tockern;' 'Tösten' in Styria; 'Trotteln' in many parts of Austria; 'Talken' in the Tyrol; 'Totteln' in Salzburgh; 'Fexen' in Wurtemberg; and 'Lallen' in various other countries; the last term being in imitation of the sound of the voice."

## PHYSIOGNOMY OF CRETINISM.

The *Encyclopædia Brit.*, subject, "Mental Disease," says: "Children who are to become cretins are generally born with a small goitre or swelling of the throat, about the size of a nut. Those who have not this peculiarity are nevertheless marked by some other characteristics which foretell their degradation and fatuity. They have an inflated tumid appearance, especially about the head and hands. They are less sensible than other infants to the impressions of the atmosphere. They suck with difficulty, sleep a great deal, and have always a dull, sleepy look. When children of the same age begin to pronounce words, they can only articulate the vowels, and they make no further progress in speech during the rest of their lives. When other children begin to use their hands in feeding themselves, the young cretins are incapable of it; and it is often necessary, after they are ten or twelve years of age, to feed them with a spoon like infants. They are equally slow in learning to walk; never cheerful; always cross and sullen; nothing but maternal tenderness could tolerate them. The head of the cretin does not grow in proportion to the rest of the body; it is commonly small, and flat on the top; the temples are flattened also, with the tuberosity of the occiput projecting in a slight degree. The eyes are small, and shrunk in the head, though sometimes, on the contrary, very protuberant. The look of a cretin is dull and stupid; the chest is broad and flat; the fingers long and slender, with the articulations ill-marked; the sole of the foot broad, and sometimes bent, and the feet are generally turned either outwards or inwards. The age of puberty is later among cretins; but the organs of generation are large, and they are much disposed to sensual indulgences. It is not till this period that the cretin begins to walk, and still his locomotion is very limited, only excited by the desire of food, or to bask by the fireside or in the rays of the sun. His small sorry bed is another termination of his difficult journeys, his step is unsteady, his body jolts on his legs, and his arms are pendulous by his side. In walking he goes straightforward, without avoiding any obstacles or dangers; and he always takes the route that he has once gone. When he has attained his greatest height of stature, which is from four to five feet, his skin becomes brown; his sensibility continues to be obtuse; he regards neither cold nor heat, nor vermin, nor blows. He is commonly deaf and dumb, and is scarcely affected by the most pungent odors. The taste of cretins is also very imperfect; and their organs of vision and of touch are probably impaired. Their moral faculties appear almost obliterated. They are hardly affectionate to their parents and friends, and betray neither pleasure nor pain at all the necessary wants of life. Such (says Fodéré) is the physical and moral state of cretins during a long course of years; for, reduced thus to a sort of vegetation and automatic existence, they live to a great old age."

The *Edinburgh Med. and Surg. Journ.*, vol. v. p. 32, says: "The skull is usually smaller and inferior in height to the skull of maniacs, and there is a great disproportion between the face and head, the former being much larger than the latter. The countenance is vacant and destitute of meaning, the complexion sickly, the stature usually diminutive, the lips and eyelids coarse and prominent, the skin wrinkled and pendulous, and the muscles loose and flabby. To these are usually added a complication of other diseases. The subjects are rickety, scrofulous or epileptic; the eyes are squinting or convulsive, and the hearing is imperfect or destroyed. Dr. Reeve visited the Valais, and saw several of these unhappy beings. One lad, twelve years old, could speak a few words, but was silly, and of a weak and feeble habit. Another boy, nine years old, was deaf, dumb, and idiotic. Neither of these, however, had goitres. A third, a girl twelve years old, was deaf, dumb, and cross-eyed, and had a monstrous goitre; while a fourth had an enlarged abdomen, and some feeble traces of understanding."

The *Medico-Chirurgical Review*, vol. i. p. 250, says: "While some are dumb, others express themselves in inarticulate sounds, cries, or a prolonged roar. A few are able to utter a word or two distinctly, as with the idiot mentioned by Esquirol. This was a female, aged twenty-two years, who had been in the Salpêtrière three years without any change. Her head was large and irregularly shaped, and the forehead high and prominent, so that the facial angle was more than ninety degrees. She ate voraciously, and without discrimination; passed all evacuations involuntarily, but the menses were regular and abundant. She walked little, and all her movements were convulsive. She was a perfectly helpless infant—insensible to heat, cold, rain, or even her own internal feelings."

Dr. Ray, in his work on Medical Jurisprudence, says: "In that form of idiocy called cretinism, which is endemic in the Alps and some other mountainous countries, opportunities of observing its phenomena are offered on a grand scale. The difference in the degrees of this affection has led to its division into three classes, namely, cretinism, semi-cretinism, and cretinism in the third degree. In the first, life seems to be almost entirely automatic; most of its subjects are unable to speak; their senses are dull, if not altogether wanting, and nothing but the most urgent calls of nature excite their attention. To good or to bad treatment they are equally insensible. The semi-cretins show some glimmering of a higher nature; they note what passes around; they remember simple events; and make use of language to express their wants. They are capable of little else, however, for they have no idea of numbers, and, though taught to repeat certain passages, they learn nothing of their meaning. The actions of the third kind indicate a still higher degree of intellect; they have a stronger memory of events, and they learn to read and write, though with scarcely any conceptions of the purposes of either."

Dr. G. S. Blakie, in his Prize Essay on Cretinism, page 14, ex-



tracts a description of cretins from a German traveler, J. G. Kohl: "With timid, cowering mien, with dull, listless eyes, with bent legs and goitered necks, many have three or four thick swellings at their throat. These misshapen abnormalities drag themselves everywhere through the streets. 'Tis the saddest lopping and laming of humanity that is to be found anywhere on the earth, for the body is as deformed as the soul is debased, and the understanding as blind as the feelings perverted. These wretched creatures are, for the most part, malicious, revengeful, and cruel. They exhibit, when they eat, a most voracious and entirely brutal appetite, as indeed all their sensual propensities are manifested in a most brutal and disgusting way. Like the brutes, they have generally a keen scent, but their hearing is seldom acute."

Weber reiterates these statements, and says; "These cretins are intermediate between man and beast."

Berchthold Beaupré, in his *Description of Cretins*, asks: "Who is this melancholy being who bears the human form in its lowest and most repulsive expressions? I see a head of unusual form and size, a squat and bloated figure, with a stupid look, with clear, hollow and heavy eyes, with thick projecting eyelids, and a flat nose. His face is of a leaden hue, his skin is dirty, flabby, covered with tetters, and his thick tongue hangs down over his moist livid lips. His mouth, always open and full of saliva, shows teeth which are going to decay. His chest is narrow; his back curved; his breath asthmatic. I see, indeed, arms and legs, but his limbs are short, misshapen, lean, stiff, without power, and without utility. The knees are thick and inclined inward; the feet flat. The large head drops listlessly on the breast; the belly resembles a bag; and the integuments are so loose that they cannot retain the intestines in its cavity. This loathsome idiotic being hears not, speaks not, and only now and then utters a hoarse, wild, inarticulate sound. Notwithstanding his greediness, he is scarcely able to support life. One passion alone seems sometimes to rouse him from his usual insensibility; this is the sexual instinct in its rudest brutality. At first we should be inclined to take this being for a gigantic polypus, something in imitation of a man, for it scarcely moves; it creeps with the painful heaviness of a sloth; and yet it is the monarch of the earth, but dethroned and degraded. It is a cretin!"

M. Fodéré, in his *Treatise on Cretinism*, remarks: "Cretins often show, in the earliest infancy, what they are destined to become. They have sometimes in their first years incipient goitre, a puffed, swollen countenance; their hands and head are large, and out of proportion to the rest of their bodies."

Again, he says; "They show a smallness of the head, disproportioned to the rest of the body; their heads are flattened at the summit and at the temples, and the tuberosity of the occiput is less projecting than natural; their eyes are small, sometimes deeply sunk, at others prominent; their look fixed and stupid; their chests flat, their fingers thin and long, with small articulations; the soles of their feet flattened, and sometimes bent; their feet

often turned either inwards or outwards; puberty comes very slowly, with enormous size of the genitals; obscene and inordinate propensities. His litter is, to the cretin, the term of his longest and most fatiguing journeys, and to it he comes tottering, with his arms hanging down and his body reeling about. In seeking his object, he goes forward without shunning dangers or obstacles; he can take no other road than that with which he is familiar. When he has attained his full stature, which is from thirteen to sixteen decimetres, the cretin's skin becomes brown; his sensibility continues obtuse; he is indifferent to cold or heat, or even blows and wounds; he is generally deaf and dumb; the strongest and most revolting odors scarcely affect him." "I have seen," he says, "a cretin eat with avidity raw onions and even charcoal, which proves that the organ of taste is gross or imperfect."

Stanley says: "We may then consider the disease of cretinism to be highly developed rickets, accompanied with idiotism." "We may indeed look upon cretinism as a variety, and the highest degree of idiotism, a degeneration of all the faculties of the body and mind."

"Of all the forms of idiocy," says a writer, "cretinism is, perhaps the most painful and disgusting; the throat almost uniformly distended with the hideous goitre; the face bloated, swollen, and devoid of any intellectual expression; the limbs powerless; the body cold, tumid, and livid; the tongue enlarged and depending from the mouth; all constitute a picture too loathsome to gaze upon whose heart is not firmly fixed in the determination to do good even to the most wretched and abject."

#### CAUSES OF CRETINISM.

Much diversity of opinion exists as to the causes of this form of idiocy. Undoubtedly, like idiocy, the greatest number of cases are congenital; but congenital cretinism generally occurs as a hereditary disease, therein differing from idiocy, which does occur to children of healthy parents.

The most prevalent opinion among writers on this subject is, that the dark, damp, badly ventilated mountainous recesses, conjoined with the illy fed and impoverished condition of the inhabitants, are the prominent exciting causes. Yet, in counter argument to such a theory, it has been ascertained that genuine cases of cretinism occur remote from such influences. However true the above theory may be in relation to goitre, there is not a sufficient amount of data to conclude that goitre is in any case the cause of idiocy or cretinism, nor that idiocy from necessity must follow the most prominent case of goitre, to the contrary of which we have abundant proof. From the observation of others, goitre is but symptomatic of other affections of the body.

Dr. Blakie, in his Prize Essay, p. 23, in speaking of cretinism, says: "Those to which we find it nearest allied are, as regards the mind, idiotism, and, in relation to the body, rickets."



Dr. Guggenbühl divides cretins into four classes: 1st. Those in which the bodies are much emaciated and the limbs paralyzed. These he terms "atrophied cretins," and he believes that in them the spinal cord is chiefly affected. 2d. Those affected to a great degree with mollities ossium, he calls "rickety cretins." 3d. Those with chronic hydrocephalus, with wasting of the nervous system, absence of moral and intellectual faculties, various symptoms of paralysis and almost approaching the fourth grade, the "hydrocephalic cretins." Thus, whatever may be the remote exciting cause of goitre, cretinism or idiocy may depend upon some cause more intimately connected with sensorial functions.

In his fourth class are embraced congenital cretins, in which all the above conditions may exist. Dr. Blakie thinks that in many, the idiocy is in consequence of the rickety state of the bones of the skull.

"A careful examination of cretinism, made in Canton Valais, shows, according to Dr. Guggenbühl's account (first report), that at least the half of them commence with rachitic softening of the bones. M. Virey, in the *Dictionnaire des Sciences Médicales*, mentions that, in the work of Dr. Ackerman, published in the last century, the entire cause of cretinism is attributed to a cachectic state of the body, which, inducing scrofulous rickets of the cranial bones, and causing them to press on the nerves at their origin, produces the phenomena of idiocy."

"Taking the appearance of the skull and the above facts into consideration, I am fully inclined to agree with this opinion, and consider it as accounting for the secondary phenomena of cretinism, viz: idiocy; but we have yet to ascertain why this rickety state should be induced, and why common in one place and not in another."

Knobz, in the *Medizinische Jahrbuch des Oesterreichs*, considers the essence of the disease to consist in predominant activity of the sympathetic and imperfect development of the cerebral system, from which he explains not only the phenomena occurring during life, but also the post-mortem appearances of the remarkably developed sympathetic nerve.

Many other theories respecting the causes might be mentioned; but I consider the real causes not to be in any one theory, but in the combination of all. There is undoubtedly a first cause affecting the organization so far as to produce disorganization of the cranial bones, the membranes or substance of the brain, the medulla, the nervous centres, the circulatory system which destroys the adaptation of the body for the manifestations of the soul.

All the efforts and research yet made by Georget, Esquirol, Lelut, Foville, Calmeil, Leuret, united to the elaborate study of Gall and Spurzheim, and many others, have failed to point out the causes of the phenomena observed in the idiotic mind. Time has settled the dispute between Itard and Pinel. We no longer see in the idiot, the savage or the untaught; yet possibly our present theories respecting the phenomena of idiotism may present to



coming generations anomalies quite as inconsistent with truth as were the views of Itard in respect to the wild boy of Aveyron.

#### LOCALITIES AND NUMBERS.

From the fact that we hear more of the cretinism of the Alps, and especially of Switzerland, we immediately direct our attention to that part of the globe as the place in which alone cretinism is found. But other countries are afflicted with this blight of the physical and mental powers. Styria, Savoy, the Pyrenees, Algeria, China, the Himalayan Mountains, the Carpathian, the Cordilleras, and in various other parts of Asia not mentioned. And probably, place the same density of population, the same want and privation in the United States, and we would have a similarity of disease. It may, even now, be a question for the medical profession to solve, whether there is not an increasing tendency to a scrofuletic and rickety state pervading a large amount of our population, which will result in some affliction but little short of cretinic idiocy.

The number of cretins in some districts where it exists is almost incredible. In Canton Aaran they are not unfrequent; and on the whole, among the 2,188,000 souls who form the population of the Swiss confederation, no less than 20,000 persons are calculated to suffer, in a greater or less degree, from the disease. These, according to a report published lately at Genoa, are thus distributed:

In the Canton Valais there is . . . . 1 Cretin in 25 inhabitants.			
Districts Mondon, De Vaud . . . . .	1	"	27
Canton Uri . . . . .	1	"	83
" Argovia . . . . .	1	"	167
" Gaisons . . . . .	1	"	266
" Glarus . . . . .	1	"	375

Returning to the examination of the rest of Europe, we find that the disease is endemic in various parts of Rhenish Prussia. An island named Niederworth in the Rhine, a mile and a half below Coblentz, is a remarkable example. On this small island no fewer than 40 among 750 inhabitants were found.

In the vicinity of the lake of Laach, near Bonn, there are many in all stages; and in one of the villages of that district, in 300 inhabitants, there are 22 cretins and idiots.

In the Grand Duchy of Baden, the Report of the Sanitary Commission of 1847 mentioned the occurrence of 490 cretins, chiefly in the Black Forrest and the Odenwald.

As regards Sardinia, the royal reports on cretinism give the following results. The population of the country is 4,125,740, of whom about half live in the hilly district where cretinism is endemic. Here we have 7084 cretins, besides many half cretins, of whom 3500 are in Savoy, 1400 in Maurienne, and 2180 in the Vallep of Aosta. But Dr. Guggenbühl considers that this report is not complete; that many of the districts were not completely

searched; and he agrees with Dr. D'Espire, of Geneva, in calculating the number at 10,000 and upwards.

"In Bavaria, according to Professor Virchow, in Lower Franconia, in half a million of inhabitants, there are at least two hundred cretins. In the highlands of Bavaria the disease is still more common, though not statistically reported.

"In Austria the disease is very abundant. According to Dr. Schausberger, along the banks of the Danube in Upper Austria, the disease is so universal that whole families consist only of cretins and half cretins; and to such an extent that, in villages of from four to five thousand inhabitants, not one man was found capable of bearing arms. On examination, 6000 cretins of the worst kind were found in Steiermark. According to Professor Langers, in the different provinces of Austria, the numbers of cretins stand thus:

In Judenburg .....	1 in	53 inhabitants.
" Brück .....	1 "	74 "
" Gratz .....	1 "	150 "
" Marburgh.....	1 "	374 "
" Cilly.....	1 "	516 "

"In Wurtemberg it is calculated there are about 5000 affected with the disease.

"In Denmark, too, a considerable number of cretins exist among the 2000 idiots of the population.

"In Norway there are also 2000 idiots; but even among mountains bearing the strongest resemblance to those of Switzerland, bodily deformity is by no means so prevalent.

"In several parts of France, cretins are also mentioned as occurring, as in the department of Vosges.

"When statistical inquiry is directed to the subject, I have no doubt that, among the many idiots of England, Scotland, and more particularly America (as in the State of Massachusetts, where there is an idiot in almost every 1000 inhabitants), many cretins will be found; and, from personal observation, I will add to this geographical sketch, the occurrence of cretinism near Edinburgh, and in the highlands of Scotland."

A French physician estimates the number of cretins in Europe to be about one million. What a desolation of mind! what a field for the exercise of all the benevolent feelings of the human heart! We admiringly speak of armies numbering twenty, fifty and an hundred thousand, but how much do they dwindle when compared to the million of cretinic, helpless, misshapen, afflicted members of God's creation scattered throughout Europe.

[From the Trans. Amer. Med. Association.]

*Report on Inebriate Asylums.* By C. McDERMOT, M.D.

The committee on Inebriate Asylums respectfully submit the following report :

The various measures hitherto adopted for the suppression of drunkenness have utterly failed to remedy the evil in its worst form. It is not to be denied that the friends of the temperance cause have accomplished a large amount of good; through their instrumentality thousands have doubtless been impressed with the perilous tendency of a moderate indulgence in alcoholic stimulants, and, in consequence, have wholly abstained from their use; by their efforts the bottle has been excluded formally from the family board and the pale of the church, and the once popular notion that whisky is an essential element of friendly and social communion has been by them abolished. Now and then they have succeeded in reclaiming a confirmed drunkard, but the triumphs of this kind were very few, and so often blasted by subsequent relapses, that the radical, permanent reform of an inebriate is now generally looked upon as almost miraculous. Their failure to reach this unfortunate class is due to the fact that the true remedy was not applied.

This remedy consists in separating the drunkard from his intoxicating draught, which may be done in two ways: 1st. *By an absolute prohibition of the sale and manufacture of ardent spirits, or,* 2d. *By placing the inebriate in an asylum where he shall be delivered from the temptation to drink—guarded from the possibility of indulgence; and be subjected to such medical and moral treatment as will effectually overcome his morbid appetite.*

In the present state of society, we look upon the cure of the inebriate by the method first indicated, as wholly impracticable. If we consult the sentiments of the masses, we will find the advocates of such a beneficent enactment far inferior in wealth, numbers, and political influence, to those whom avarice and selfishness would array in opposition to it. The second method is the only one available; by this method, it is proposed to furnish a place of refuge to which the unfortunate victim of intemperance may fly for safety and aid, and in which he may remain securely until his ungovernable passion for drink shall be overcome, and he is restored to health, reason and self-control.

It may be truly asserted that every other method for restoring the inebriate has been tested and found inadequate. If we review the labors of the temperance party for the last thirty years, we cannot fail to be amazed at the immensity of their work. What diversified schemes for securing the desired reform! Look at the vast machinery of their organization! There is scarce a town or district in the civilized world that has not been made the theatre of their systematic operations. Consider all they have undertaken



by popular association, by political parties, by the administration of pledges, by private appeals. Look at the host of powerful advocates that have been and are still enlisted in the service. What zeal and union of action by men of all parties, sects and opinions! The church, through her ministers and laity, has spoken with one earnest and solemn voice on the side of temperance; the medical profession has laid open to the world the baneful effects of alcohol on the human system, and the frightful destruction of human life occasioned by intemperance. The officers of our criminal courts have exposed the magnitude of this giant evil. Nations have enacted laws for its suppression, but all these means have failed to reach the confirmed inebriate, and they always will fail, because, as stated, they do not present the true remedy for the evil.

It is an error to suppose that the inebriate is a mere moral delinquent, who can be reclaimed by moral suasion. Possibly this may be true of him in the early stage of his career, but it is not true of the confirmed drunkard. He has a diseased stomach which arguments cannot cure—a distemper of the brain which all the moral forces in the universe cannot eradicate. He has lost the power of self-control, and might as well attempt to check the pulsations of his heart as refrain from gratifying his thirst for stimulants, so long as the means of gratification are within his reach. With him inebriety is a disease, having, like other diseases, its causes, its peculiar symptoms, and its morbid anatomy.

Within the past few years the physiological and pathological characters of inebriety have been carefully investigated in this country and Europe, and the results of these investigations demonstrate, beyond a doubt, that inebriety is a disease—*constitutional and hereditary*.

The distinguished philosopher and philanthropist, Dr. J. W. Francis, speaking of the morbid appearance of drunkenness, says: "Every fibre, every tissue of the body is subjected to its all pervading influence; no part, however, demonstrates its sad ravages more frequently than the brain; the knife of the dissector shows the changes here to be many and most afflicting; inflammation, adhesions and effusions are the commonest forms of the altered state; the poison itself is often actually found in the ventricles of the brain, and upon the bony covering being removed, the exhalation of alcohol is strongly perceptible. Apply a lighted taper, and combustion takes place. I have seen the brain thus on fire twelve hours after the death of the inebriate. As a medical witness, I have in numerous cases testified to the truth of these pathological facts, derived from dissections, many of which I have performed."

Dr. Turner, the founder of the Inebriate Asylum now in course of erection at Binghamton, N. Y., in reference to the hereditary character of this disease, says: "This is shown by the mortality of children born of inebriate parents, in whom are found the same appearances of ulceration of the stomach, liver and intestinal canal, with the indurated condition of the brain, as we find in

chronic cases produced by five or ten years of excess in the use of alcoholic stimulants."

Another striking evidence of the hereditary character of this disease is observed in those persons who, after drinking one glass of liquor, and sometimes even after tasting it, lose their self-restraint, and fall into immoderate indulgence.

In a recent work on insanity by Dr. Wood, of London, the learned author makes the following declaration: "Instances are sufficiently familiar, and several have occurred within my own personal knowledge, when the father, having died at an early age from intemperance, has left a son to be brought up by those who have suffered from his excesses, and have therefore the strongest motive to prevent, if possible, a repetition of such misery. Every pains has been taken to enforce sobriety; and yet, notwithstanding all precaution, the habits of the father have become the habits of the son, who, having never seen him from infancy, could not have adopted them from imitation. Everything was done to encourage habits of temperance, but to no purpose. The seeds of the disease had begun to germinate; a blind impulse has led the doomed individual by successive and rapid stages along the same course that was fatal to his father, and which, ere long terminates his own destruction. This does not only occur among the lower orders, where it may be supposed education has done little towards the cultivation of the mind, and the government of the passions and propensities; for it is observed in those whose education and position in society afforded the best guarantee that their conduct would be under the guidance of reason."

Insanity and idiocy are prominent among the diseases entailed by inebriates on their offspring. Nearly one-half of all the insanity and idiocy of the country is referable to this cause.

Delirium tremens, the most dreadful disease that afflicts our race, is one of the forms of inebriety; and it is a remarkable fact that this form of the disease is seldom witnessed except in those descended from intemperate ancestors. Dr. Bruce, who records this observation, also mentions the case of a workman who had an attack of delirium tremens from inhaling the vapor of alcohol in the establishment where he was employed. The man's father had died with the disease.

Dr. Barrow, in his work on Insanity, says: "This affection (delirium tremens) has been known to be induced in persons of sober habits whose daily occupation exposed them to the fumes of alcohol." Dr. Turner also mentions a case of the kind occurring under his notice. A singular case illustrative of this pathological law occurred in my own practice some years ago. The patient had been harrassed with ague, and to prevent its return he took every morning a wineglass of bitters, composed of Peruvian bark in whisky; in three months he had an attack of delirium tremens which proved fatal. His wife and neighbors had never seen him intoxicated.

In maintaining that inebriety is a disease, it is not implied that



any and every indulgence in ardent spirits is productive of, or associated with, derangement of the physical structure. A wise Providence has so formed our bodies that they are capable of resisting morbid influences to a very great degree. A person may be exposed for years to a malarious climate, and yet, if the protective forces of his system are sufficiently active, he will escape any morbid impression, and even when such an impression is made the recuperative powers of Nature are ever active, and ordinarily suffice to repair the injury. On the same principle, a healthy individual may drink brandy once or one hundred times without producing disease. We know men who have been in the habit of drinking for twenty or thirty years, and who sometimes drink to excess, without as yet any apparent impairment of health. It is only when the appetite for stimulants becomes irresistible, that we have positive evidences of disease. Up to this point, he may be classed with the moderate drinker or voluntary drunkard; but, having once passed this boundary, he descends to the grade of the inebriate. To note the precise time when this point is reached, is not necessary. The dividing line between health and disease cannot be designated in any case; it is as imperceptible as the line that separates night from day.

The inebriate then, whether rendered such by a hereditary proclivity or voluntary self-abuse, is to be regarded as the most pitiable of all God's unfortunate creatures. He is no longer influenced by motives or arguments; he may listen to the reasonings of the moralist and the warnings of the divine, but in the hour of temptation all is forgotten. He is not a proper subject of parental discipline or the civil police of society; the sacred obligations of the family relation, the more sacred obligations of a Christian profession, even the solemn oath of reformation recorded in his lucid intervals, are all utterly powerless for restraint, when the paroxysm of dipsomania is upon him.

His disease is not located in the heart, or the will, or the conscience, but in the *stomach, brain and nervous system*; and hence the inefficacy of all *moral* prescriptions, and the propriety and necessity of consigning him to the *doctor* for treatment.

The morbid condition of the system which constitutes inebriety, is always attended with perversions of the intellectual functions. The mind itself being imperishable, is not liable to disease, but its functions are often strangely perverted in consequence of derangement in the physical organs through which it operates. In inebriety, these are not so far perverted but that the patient knows and feels he is doing wrong; nevertheless his morbid thirst for drink is so intense that the gratification of it becomes absolutely irresistible. He may be compared to the ague patient, who knows and dreads the approaching chill; he is anxious to avoid the "shake;" he determines to resist it; he nerves himself for the struggle, but in vain. In both cases there is a morbid necessity of nature that must be obeyed in spite of all effort and volition to the contrary. As the disease advances, the moral and intellectual faculties be-



come more and more disordered, until at length the victim becomes unconscious of the depravity of his course, and yields himself a willing slave to the poisonous cup.

We believe an asylum as necessary for the inebriate as for the lunatic. Every consideration in favor of the one may be urged with equal force in favor of the other.

Like the lunatic, he is incompetent to manage his affairs; he is a curse to his family and friends; he beggars those who are dependent upon him; fills the land with crime; and injures, by his pernicious example, all who come within the sphere of his influence. In certain forms of the disease, he will plunge a dagger into the bosom that nursed his infancy—into the heart that lavished its best love upon him; even his children, the darling objects of his sober affections, are often the unlucky objects of his insane fury.

The prison, the gallows, the insane asylum, or suicide, often terminates his career. If he escapes these, look at the degradation into which he is plunged. He may have occupied the loftiest place in society. The brilliancy of his genius may have commanded universal admiration. Senates may have been chained by his eloquence; the bar or the pulpit may have numbered him among its brightest ornaments. He may have been loved and honored by all, and yet to what depth of degradation is he hurled when the demon of intemperance obtains the mastery over him. His fellowship is then with the vile and sottish. His name is a byword and a reproach; those who once courted his companionship now shun him. His body is diseased; his mind is stupefied; his feelings are brutalized; his conscience is dead; his existence is a public calamity, his death a public relief.

There are those who deny that inebriety is a disease. Maintaining that a man becomes a drunkard in consequence of his own willful and wicked indulgence, and admitting that this indulgence long persisted in produces an *ungovernable* passion for stimulants, they discover nothing in the condition of a drunkard to excite a charitable view of his case. They regard his loss of self-control only as the evidence of a darker depravity, a deeper criminality. We deem it a sufficient answer to this narrow view of the case to state that nine-tenths of the insanity in our asylums has been induced by voluntary vicious indulgence of one sort or other. Surely, no one would dare to say that, on this account, our sympathies shall be withheld from the lunatic, and that he should be excluded from the benefits of a charitable and remedial system. It is not in Christianity to allow a man to perish, although he may have been the author of his own downfall; it is godlike, and, therefore, the noblest mission of philanthropy, to alleviate the sufferings of an erring brother, and, if possible, redeem him from ruin.

The doctrine that inebriety is a disease, is not new. It was held and promulgated by the celebrated Dr. Rush, of Philadelphia. He regarded the confirmed inebriate as irresponsible in the eyes of the law, and urged the establishment of asylums for their restraint and treatment. He alledged that they were "as fit subjects of hospi-

tal treatment as any other class of madmen." "They are," he adds, "monomaniacs—the subjects of physical disease located in the brain. At first their drinking is the fruit of moral depravity, but when long indulgence in this vice has produced disease of the brain, then is their drinking the result of insanity.

Having satisfied ourselves that inebriety is a disease, we propose in the next place to inquire into its curability, and on this point we are not left to doubtful conjecture. Experience has proved that a radical and permanent cure may be achieved in a large majority of cases, by placing the drunkard in an asylum where he shall be fully under the control and treatment of a proper medical supervisor. Dr. Turner, in his very able letter to Gov. Morgan, says: "It is no longer problematical that inebriety can be controlled, treated, and cured by an asylum, experience in insane asylums and in private practice demonstrates this fact beyond a doubt. He also contends "that the institution will have more elements for the treatment of the inebriate than any lunatic asylum has for the treatment of the insane. Experience and medical observation have already verified this fact. It is obvious to every mind that the removal of an insane patient to an asylum does not remove the exciting cause of insanity. It may require months before the cause of mental derangement can be determined. But in the case of inebriety, the removal of the patient to this asylum removes at once the exciting cause of his malady, and places him at once in the condition of cure."

The late Dr. Woodward, of the Worcester Insane Asylum, says: "From the many hundreds I have treated, I am convinced that nine out of ten could be radically cured in an inebriate asylum." He cites the following case to illustrate the efficacy of this method of treatment in the most aggravated cases. "I once had a person under my care who had used spirituous liquors in great quantities, and for a long period of time. He was placed in circumstances where it was impossible to obtain it. Naturally vigorous and stout-hearted, his constitution seemed to retain considerable energy. It was concluded in consultation, by those who now had the care of this unhappy man, to take away all his stimulants at once, and watch him carefully, and to administer to his wants all that nutrition of the most grateful kind which should alleviate in any measure the tempest of suffering which we supposed he must inevitably meet. His sufferings were unparalleled in intensity and duration. The hardness of his natural ferocity was melted into childishness, and in the agony of his torments, with torrents of tears flowing over his cheeks, he would beg, with all the eloquence which famished nature could call forth, that one dram, one glass should be afforded him. I shall never forget the horror of this scene. I shall never forget the heart-rending appeals made to me in my daily rounds. I shall never forget how far were my feelings from torturing or ridiculing this wretched sufferer, whose every nerve was in torment, whose stomach, rejecting the bland nutrition administered, called loudly and imperiously for that bewitching



draught, which, if the cause of all his horror, was, he well knew, the only means of relief from his present agony; but no alcoholic stimulant was afforded him. His symptoms were watched with great care, and those medicines administered from time to time which his situation required. In a few weeks he improved; in a few months he recruited; in two years he was well, in better health than he had enjoyed for many years. He now acknowledges that we saved him from ignominy and an untimely grave."

The honorable and distinguished Dr. Shae, of the Royal Edinburgh Asylum, and Dr. Peddie of the same place, have expressed themselves strongly in favor of the asylum method of treating inebriates. The latter says: "I consider it as much the duty of the government to control and medically treat the dipsomaniac as it is to stay the hand of the homicide or the suicide in their insane impulses."

It is needless further to cite individual authorities in favor of the inebriate asylum. Every medical man who has expressed an opinion on the subject, and all the medical journals in the country, are in favor of this system. Fourteen hundred of the leading physicians of New York united, a short while ago, in a petition to the Legislature of their State for an appropriation to aid in completing the Binghamton Asylum. The following extract from the petition will indicate the view which every enlightened physician must entertain in respect to the inebriate asylum:

"As practitioners, we have long felt the necessity of having an asylum where the inebriate could be medically and morally treated with sufficient restraint to control the patient. Without such an institution, the physician has been compelled to turn from his patient discouraged, disheartened and defeated, and the victim of this painful malady, be he rich or poor, high or low, must alike find a drunkard's death and a drunkard's grave; with this institution we can save hundreds who are now crowding our insane asylums, inundating our courts, dying in our prisons, and perishing in our streets.

"We are not inclined to urge the argument of economy in establishing the inebriate asylum (though we have every reason to believe it will be a self-supporting institution), when 55 per cent. of all our insanity, and 68 per cent. of all our idiocy, spring directly or indirectly from inebriety alone. We regard it a matter of duty so sacred, that, until discharged, we have no right as a moral and enlightened people to finish our great internal improvements, erect monuments in commemoration of battles, public works to art, or even *costly* temples to God.

"We maintain that our whole lives spent in our professional duties and as private citizens go to prove that, in the present state of society, there is no institution so much needed as an asylum for inebriates. Medical science demands it; civilization demands it; morality demands it; Christianity demands it; everything sacred and good in our country demands it."

The Onondaga Medical Society in 1857 also presented a memo-



rial to the Legislature of New York, setting forth in strong terms the need of an inebriate asylum, and recommending the institution at Binghamton to a share of the public money.

The State Medical Society of New York in the same year unanimously adopted a resolution recommending the inebriate asylum to the favor and support of the Legislature and the public.

A large number of the prominent citizens of Maryland have organized in behalf of this measure, and are sanguine in their expectation of being able to build an inebriate asylum at no distant day.

The cause is rapidly advancing and winning friends among the enlightened and philanthropic everywhere. We firmly believe that in less than twenty years every State in our Union will boast of one or more of these beneficent institutions.

Last year, Hon. S. P. Chase, then Governor of Ohio, in his message to the Assembly, urged the duty of the State to provide an asylum for the control and treatment of inebriates. The sentiments he has recorded on this subject are eminently wise and politic, and we hope soon to see them reflected by the Governors of every State in the Confederacy.

One of the most interesting and convincing proofs of the importance of such asylums is found in the Report of the Board of Managers of the Binghamton Asylum. Dr. Turner (to whom I am indebted for many of the facts in this report) says: "Before the walls of the first story were completed, there were 2800 applicants for admission. Among these were 28 clergymen, 36 physicians, 42 lawyers, 12 editors, 3 judges, 4 army and 3 naval officers, 179 merchants, 55 farmers, 515 mechanics, 410 women, who are from the high walks of life; of the vocation of the remaining 1200 applicants we have no knowledge."

While the condition of the inebriate is in itself sufficient to arouse our sympathies and efforts in his behalf, there are other incitements equally potent and affecting; I allude to the sufferings of his family and friends. The poor inebriate, no matter how degraded he may become, has ever some hearts that cling to him amid all his misery and wretchedness: the mother, the sister, the daughter, and, more than all, the wife—the *true* wife—she never abandons the husband of her heart, the father of her children. All others may despise and shun him; he may sink to the lowest depths of infamy and brutishness; he may bring her and her children to poverty and shame, still the heaven-born principle of conjugal attachment remains steadfast. He may treat her rudely and with violence; "he may break, he may shatter the vase if he will;" yet the fragrance of her pure love will encircle his obscured manhood, and, like a precious balm, preserve it from utter extinction, until redeemed by the special visitation of Providence or the instrumentality of the inebriate asylum.

The devotion of a sorrowing, heart-broken woman to a drunken husband is one of the strangest spectacles in the universe—and who is there that has not witnessed such devotion? The vine

clinging to the storm-lashed oak is a fitting, though faint representation of the affectionate tenacity with which the fond wife clings to her unworthy husband, amid the storms and convulsions of his drunken career.

There are at this time at least a million of hearts in our country that are hourly wrung with anguish, by the intemperance of some near relative or friend. Who among us are strangers to its disastrous effects! Alas! how few are not called to mourn over these effects in our own family or friendly circles?

The most careful estimates show that there are not less than 500,000 drunkards in the United States, and that of these 30,000 fall annually into a drunkard's grave. In view of these appalling facts, it becomes our imperative duty to aid in any measure that is adapted to remove the evil. As commissioned guardians of the public health, we cannot permit these 30,000 to perish amongst us when the means of rescuing them are within our reach.

The inebriate asylum is one of the noblest conceptions of the medical mind, and I am happy and confident in the belief that the medical profession will take the lead in promoting this, as they have done in almost every benevolent and reformatory enterprise of the past. The fact that 1400 of our brethren in New York have subscribed \$12,000 to aid in erecting the asylum at Binghamton, is a good guarantee that our profession everywhere will exert themselves to secure for the unhappy inebriate the blessings of a special institution. This asylum is the great desideratum of the present age. It is not in the power of philanthropy to devise a scheme more fraught with benefits to the suffering race; through its instrumentality thousands of our fellow citizens will be rescued from ruin, and themselves and families restored to happiness and respectability. In all coming generations, the inebriate asylum is destined to be prominent among the charitable and remedial institutions of every civilized nation. It will stand as an ark of safety, a house of refuge, to which the perishing drunkard may fly for deliverance, and from which he shall come forth in newness of life to pronounce blessings on the names of Turner, Butler, Francis, and all others, who, through faith in the curability of the inebriate, shall nobly exert themselves for his salvation.

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*Turkey from a Medical Point of View.* By W. GOODELL, M.D., member of the Imperial Society of Medicine at Constantinople.

Although the justly distinguished names of Rhazes, Avicenna, and Lockman are familiar as household words to the Mohammedan, yet the Turks, who cheerfully adopted the religion as well as the literature of the Saracens, when the Ottoman Empire absorbed the conquests of the Caliphs, seemed in nowise to have encouraged the study of the medical or surgical sciences which flourished so bril-



liantly among the Arabians in the ninth and tenth centuries. In place of advancing, they have retrograded to the low ebb of the dark ages, and, as in that period, the remedial art is monopolized by the Jewish leech, and by strolling mountebanks and juggling imposters. In the larger sea-ports, where civilization and polished manners are aimed at, there are many very talented physicians, whom political troubles, or a spirit of adventure, have driven to the East; and they deservedly rank high in the esteem of the more enlightened inhabitants. But in the vast majority of cases, either native empirics are employed, or else Greek and Italian apothecaries, who, too ambitious to limit their sphere of usefulness to the mortar and pestle, retail the well-conned prescriptions of the more regular practitioner.

In the palmy days of the Janizaries, military surgery was not a whit better. After a gunshot wound, there was no caviling about the niceties of shock and reaction, but a council of officers determined the necessity of an operation, and an amputation depended upon the decision of the chaplain; consequently, most of the wounded perished; indeed, it is a notorious fact that even after disastrous wars, no mutilated warriors encumbered the finances of the state. At length the Turkish government, becoming keenly alive to the importance of educated attendants on their armies, established in Constantinople, about thirty years ago, a university of medicine, similar to those of Europe. Richly endowed, it not only gives gratuitous instruction to about five hundred youths of all religions and nationalities, but each student, upon his entrance, receives a military rank with corresponding rations; which are increased to those of a higher appointment at the end of the course, when he is bound to serve five years in the army. The course of instruction cannot be the most thorough, especially since the knowledge of anatomy must be derived from the study of manikins and of the inferior animals. The Koran does not sanction human dissections, assigning as a reason that contact with a dead body renders a Mohammedan unclean, and that the soul does not forsake the body immediately after death, but lingers until the moment of interment. Hence, the corpse is hurried to the grave as rapidly as the bearers can go, and post-mortem investigations are popularly invested with all the horrors of human vivisections. Recently, the authorities have connived at the yearly dissection of two or three negro galley-slaves; but we have met graduates of ten years standing who had never examined the interior of the human frame, and whose topographical ignorance of anatomy would insure a flogging to the pupils of one of our public schools. The occupants of the various chairs of this institution, with some honorable exceptions, are ubiquitous Greeks and Armenians of no mark, whom successful intrigue or fortunate ties of consanguinity have placed in these lucrative positions. The dean of the faculty rejoices in the soubriquet of head physician, a hereditary title which does not necessitate any knowledge of medicine; the present incumbent not knowing the difference between the *pons Varolii* and the *pons asinorum*.



During the Crimean war, a royal *firman*, or letters-patent, granted a charter to the Imperial Society of Medicine, at Constantinople, and endowed it with a yearly sum of two thousand dollars. The resident members, numbering about one hundred and twenty, are elected by ballot, upon the presentation of a thesis, which must meet the unanimous approval of a committee appointed for that purpose. This society deserves the highest encomium, and, although its meetings are held weekly, the attendance is better than that of any similar institution of this city. Its library and pathological museum are rapidly increasing; it supports a reading-room which is open every day to members, and publishes a very excellent monthly gazette, the editors of which are elected every six months. The debates, held usually in the French language, are of a most instructive and interesting character, inasmuch as disputants of different nationalities, and consequently disciples of every known European school, alternately defend and challenge the doctrines of rival teachers.

Although the marked improvement in the education of the upper classes of the Turks impels them to seek the advice of educated physicians, yet whenever the disease is one of doubt, or unusually protracted, there is an instinctive tendency to call in the impudent quack, who deals in nostrums or incantations, according to the religious or secular character he prefers to assume. Even the Sultan, who may be considered as a fair type of the liberal Mohammedan, is not free from this foible, and rarely employs the services of his seven Christian court-physicians, although each is obliged in turn to spend twenty-four hours of every week within the walls of the palace. Among the score of empirics of every sex and sect, who hang about the precincts of the seraglio, there are two or three who rejoice in an ephemeral pre-eminence, which they retain so long as their remedies meet with success. These may more properly be called the medical attendants of the Sultan.

At one time, Abdul-Mejid conceived a great attachment to an Austrian physician, whom he consulted on all occasions, but whom he was ultimately compelled to dismiss into honorable exile with the rank of ambassador to a foreign court. For the jealous fears of pashas and chief dignitaries could brook no favorite, who might prove a foreign spy, or successfully expose their intrigues to the royal ear. Shortly after this occurrence, the Sultan, while conning over the Koran, casually discovered a defect in the vision of one eye. Courage is not a characteristic of the commander of the faithful, and in great dismay he sent for one of these empirics, who, either not being familiar with optics, or more probably wishing to make capital, gravely shook his head and recommended certain collyria and the application of leeches. This prognosis was quite sufficient to upset the royal patient; he faithfully commenced the treatment, but experiencing no relief, in great fright telegraphed to Turin for the banished physician. The latter hastened to Constantinople in a steamboat expressly chartered for the emergency, and, detecting at a glance the nature of the affection, satisfactorily

proved to his master that one of his eyes had become more presbyoptic than the other. The treatment consisted simply in the substitution of a more powerful lens, while a splendid city residence was the reward of the fortunate oculist.

Upon another occasion, the aristocratic nerves of his majesty were cruelly unstrung by the vulgar twinges of a toothache; which, imitating the example of many a rebellious pasha, traitorously entrenched itself within a molar, and refused to capitulate to the innumerable ptisans, fomentations, nostrums, spells and incantations of the whole empirical and non-empirical faculty. Spurning the tears of the Sultanas, and the entreaties of all the favorite *Odaliques* of the *harem*, the royal sufferer sleeplessly paced his ancestral halls for several days and nights, before he could screw up his courage to the pulling point. But, to the dismay of the chamberlain, in all Stambul not a barber or dentist, for love of money or reputation, was found so disloyal as to aspire to the *crown* of his imperial sovereign. American dentists may smile at the pusillanimity of their Oriental brethren, but let them remember that any accident in the extraction of a royal tooth, whether fracture, delay, or any additional pain, might consign the bold operator to the bastinado, or to the tender mercies of the bowstring. At last, an obscure Jew, who had never looked higher than the jaws of his Hebrew customers, was induced to risk his heels and his neck in the dental encounter. Thrice prostrating himself, he entreated the Sultan to show his slave the offending molar. Quick as thought the forceps were applied, and immediately the Jew fell down, with a piercing shriek, at the feet of his master, in a well-assumed fit of epileptic convulsions. Up jumped the Sultan from his throne, forgetting, in his terror, his toothache, his dignity, and the pain of the extraction, and ordered the pages to bring cordials and water for the unfortunate dentist. The wily Jew, perceiving that a hydropathic treatment was imminent, and that this buffoonery had produced the desired effect of distracting the royal attention, now convalesced with great promptness, triumphantly exhibiting the tooth to the astonished monarch and courtiers. It is hardly necessary to add, that not only was the integrity of his gluteal fascia respected, but Israel went forth from the palace, even unto his kindred, with shekels of gold and shekels of silver.

Two years ago, the Sultan promised himself the pleasure of an extensive trip to all the principal sea-ports of his empire, and preparations were accordingly made, on a scale sufficiently vast for a regular campaign. Neptune, however, proved too staunch a republican to respect the royal stomach, and the descendant of the Caliphs ignominiously beat a retreat to the more obsequious terra-firma of his palace, after remaining in the miasmatic City of Salonica just long enough to acquire a very uncourtly ague. The germs of the disease remained in abeyance, until a tremendous cannonading and pyrotechnic display announced his safe arrival at the metropolis, after a week's absence. That same night, at an hour when all good Musselmans should be dreaming of bright-eyed houris, an Italian



court-physician, who happened to be on duty in the palace, was hastily summoned to quiet the gesticulating limbs of the royal traveler. In spite of the plebeian shakings, rivaling those of this unhappy monarch's still more unhappy ancestor, Bajazet, in his iron cage, our worthy confrere entirely mistook the case. To use a mild expression, he addressed his remedies to the phenomena resulting from an over-dose of champagne; an interdicted beverage which backsliding majesty had freely imbibed, in gratitude for his escape from the gastric eccentricities of the Propontis, and for which he evinces the same partiality that characterized his late brother of Prussia. By good luck, the disease proved a tertian; hence, in spite of the formidable attack of the previous night, the following day found the patient so much improved, that he dismissed his medical attendant with compliments and presents. Four and twenty hours had hardly elapsed, before the court was thrown into confusion by the recurrence of the same train of symptoms. Alas! for the credit of the profession by way of querulous reprisal, an old woman, who enjoyed the reputation of curing the Sultan, in his boyhood, of the small-pox, now ministered to his wants. Knowing her liege lord was a king at the trencher, and consequently attributing the derangement to a postprandial fit of indigestion, she prescribed an aperient, and with her own matronly hands, for "nice customs courtesy to kings," decorously introduced a clyster into the royal person.

Praise be to Allah! the sun dawned on the turban of a convalescent monarch! Quackdom was in its glory. In the first blush of gratitude a pension was settled on the enchantress, while she gathered a rich harvest of Cashmere shawls and jewels from the fair inmates of the palace. By the beard of the thrice blessed prophet, peace to his ashes! again the nocturnal visitor uncourteously shook the royal couch. This time Sultanas, eunuchs, chamberlains, and pages hurried to and fro in the greatest confusion and dismay. Messengers were dispatched for the Grand Mufti, with his formidable train of ecclesiastics, while the whole body politic of cabinet ministers hastened to assemble. After the usual number of pipes and cups of coffee, salaams, pious invocations and quotations, with which every Turk prefaces any important business, the balance of this solemn conclave oscillated now to the partisans of some renowned charlatan, anon to the patrons of the more legitimate art, until it happily depended in favor of science. A well-known Greek physician assumed the treatment, who, to make a long story no longer, boldly unmasked the paludal demon and exorcised it with eighteen grains of quinine.

Fabulous were the rewards of this fortunate conjurer. A noble city mansion, a charming suburban retreat, and a lucrative sinecure evinced the regal gratitude; while, according to Oriental etiquette, the pashas and high functionaries measured their rank by a corresponding value in their gifts to the "man whom the king delighted to honor." The most strait-laced philosophy will not keep down a sigh, when the writer of this article recollects that he was not the



dispenser of this scruple of the antiperiodic. A plague on history ! it makes us poor plodding mortals envious of our Greek brethren, who have ever been lucky dogs, where good fees are concerned. In all ancient lore, who can find that an obolus, or even an Attic drachma was ever slipped into the expectant palm of an Athenian physician ? Such mites were piously consecrated to old Charon's toll, or might secure a back seat in the amphitheatre. Æsculapius undoubtedly set up his chariot and six, and was not only transported from his chair on earth, to a more onerous one among the gods, but received the rich fee of Homeric praise—world-renowned hexameters which we would willingly exchange for a good sterling ante-mortem quid pro quo. Practical Podalirius, "offspring of the healing god," father of phlebotomy, breathes his vows and opens a vein at the same time ; and, after this successful venesection, pockets a whole province from the king of Caria and the hand of his daughter to boot. Hippocrates was both aureated and laureated by appreciative Athenians ; had his likeness done, not in distemper as was most natural, but in virgin gold by his solid patients of Argos, and had the posthumous honor of temples and alters erected to his memory. Six centuries B. C., enviable Mr. Damocedes, surgeon in ordinary to King Polycrates, and consulting physician extraordinary of all classic valetudinarians, staggers home under the weight of two talents of gold, in exchange for the medical talents he had lavished on the tyrant of Samos ; while Darius and his queen, Atossa, without being dunned by a collector, lavished on the same lucky gentleman gifts, honors, and captives innumerable. Precisely as many centuries after the Christian era, Chosroes, a famous king of Persia, grateful for the heroic doses of Stephen of Edessa, rewards that rank abolitionist with the manumission of three thousand slaves. Eheu me miserum ! Why can we not trace our genealogy perpendicularly from Cecrops, or legitimately adopt the heraldic device of the Argonautic hero ?

But to return from a long digression ; the empirics form the vast majority of the medical body, each of whom devotes himself to a specialty, which is hereditary in the family ; the father initiating his sons in the mysteries of his craft, and transmitting to his heirs all the secrets appertaining to it. Fractures and dislocations, genito-urinary diseases, hernias, jaundice, epilepsy, etc., are the monopolies of as many different families. The Jews and barbers, who bleed, cup, leech, and extract teeth in addition to their tonsorial duties, are the only general practitioners. They dabble with herbs and simples in the incipient stage of every disease, until alarmed friends apply either to the European physician or empirical specialist ; although, as a general rule, the former is considered the dernier resort, and gains the credit either of the death or the cure. The specialists resort to the most ingenious shifts to inspire confidence in their patients and to disguise their remedies. One gray-bearded, green-turbaned sinner rejoices in being the first oculist of Constantinople. Seated in his box of an office, six feet square, in the most crowded portion of the bazaars, and where every passer-

by can witness all proceedings, he prefaces each operation with a long prayer, and administers extreme unction to the golden needle with which he depresses the lens. In connection with this subject, let us not forget a nomadic family of veterinary oculists, who have astonished the intelligent European residents by their success in operating on the cataract of the horse. Arming a curved needle with a stout thread, saturated in some secret liquid, and muttering some unintelligible words, they pass it completely through the lens, leaving the ligature to act as a seton for several hours. We have been assured by many gentlemen, who witnessed this operation in their own stables, that the results were most gratifying.

To appreciate the tricks of those jugglers who deal in spells, some knowledge of the composition of Turkish ink will be necessary. The coloring substance is lampblack, which is thickened and rendered adhesive by gum-arabic. The paper employed is thick and enameled; hence, the characters formed by so viscid a fluid do not readily dry, and every Eastern scribe resorts by necessity as well as by taste to highly-colored sands, the most popular of which are brass-filings and fragments of gold-leaf, thickly sprinkled on, and afterward polished with the smooth convexity of the *cypræa*. Now the toothache is successfully consigned to the skill of Mohammedan priests, who circumscribe the seat of pain by a circle drawn in an ink, saturated most probably with morphine; within this circumference cabalistic characters are traced, which are eventually to be washed off and swallowed. To the great scandal of the profession in Smyrna, all obstinate cases of intermittent fever, which resisted a regular treatment, resorted successfully to the den of an old *dervish*, a sort of Mohammedan monk, who professed to deal in nothing but incantation. Curious to unfold the mystery, a gentleman, assuming a most unmitigated ague, consulted this pious quack, who, after gravely chanting some stanzas from the Koran, wrote down some well-sanded extracts, from the same holy authority, upon separate slips of paper; ordering each to be placed in a vessel of water over night, and the contents to be drank during the day. It is needless to add that, upon chemical analysis, the sand of our medical caligraphist was found to consist of pure arsenic. In like manner fumigations of cinnabar, and of other mercurial preparations, are adroitly administered under the guise of a voluminous prayer or prolonged invocations. This is a valuable hint which we throw out gratuitously for the consideration of our more ethereal brethren. To the Ozena of the spiritualist or to a recalcitrant node, how efficacious might prove a long message from the shade of the departed Galen, or the ghostly communication from some defunct Ricord!

Another class of empirics, ignoring a religious character, sneer at the divine afflatus, and in their prescriptions confine themselves to whatever is studiously loathsome. In one case of an enormous cancer of the hip, we found our patient swallowing boluses, whose



ingredients somewhat plagiarized the witches' broth in Macbeth, and were as follows:—

Powdered human skull;  
 Powdered dog's heart;  
 Dried camel's dung;  
 Powdered cones of the funereal cypress;  
 Crude antimony;  
 Urina virginæ. Q. s.

By the way, this last named rare and precious elixir enjoys a high reputation for curing inflamed eyes, and is as intrepidly taken internally for all hepatic complaints as Congress or Seltzer water. But to return to our patient; on alternate days, the palpitating bodies of ground-rats, eviscerated while alive, and frogs reduced to a pulp in a mortar, were faithfully applied as poultices. In a scientific point of view, this case presented an unusual feature of interest, which we have only observed in one other person, who was dying from hepatic and uterine cancer. A few weeks before death, the whole system seemed so impregnated with the malignant virus that there appeared all over the body hundreds of tumors, from the size of a shot to that of a large walnut, resembling schirrus in hardness and rugosity.

Next come a numerous body of vernal quacks, who, indulgent to popular prejudices, order a venesection in the spring of the year, and prescribe purges and decoctions of frogs and snakes, to eliminate all peccant elements, which appear to hibernate like beasts of prey in high latitudes. Upon the approach of Lent, they also play an important part, by granting plenary indulgence in the good things of this life to such natives as are carnally minded, or have a heretic antipathy to a leguminous diet.

Let us now touch upon a subject as delicately as its nature will permit, and yet which presents great interest in a medical point of view. All Oriental nations have long held the unenviable reputation of being tainted by the same gross licentiousness which caused two ancient cities to be engulfed in the Dead Sea. A few years ago, this vice was openly sanctioned, and every high official not only kept a *harem* of dancing boys, but was publicly surrounded by them on festive occasions. In those days, honorable native families and European residents took the same precaution to preserve the virtue of their sons as the chastity of their daughters. Now, although the Turk may still be justly accused of promoting Priapus, from the guardianship of vineyards to the niches of his Lares and Penates, yet civilization has thrown a veil over its publicity, and the surface traveler would infer a far purer state of morals than actually exists. Absurd as it may seem, there is some force in the argument advanced by the older practitioner, who claims, as a sign of Turkish regeneration, that the proportion of posterior caustic applications are diminishing to the more normal anterior. From frequent conversation with the better class of Turks, who invariably reprehended this custom, we can assign three reasons for its prevalence: The results are more economical;



the prurient appetite of the voluptuary craves after novelty; lastly, the scarcity of females, arising from the system of polygamy, by which the wealthier classes monopolize the sex. In addition to this abuse, marriage among the poorer natives is attended with difficulties; for, since a Mohammedan can at pleasure divorce his wife, the latter, to check this license, receives a dower from her husband, which she retains after the separation, and it is not every poor man who can afford such a preliminary expense.

The diseases arising from this unnatural relation are purely surgical in their character. We have often treated syphilis disreputably situated, rectitis, hemorrhoids, recto-fossal abscesses, fistulæ in ano, laceration of the mucous membrane of the rectum, prolapsus ani, and relaxation of the sphincter muscles, which were promptly referred by the patients themselves to the proper cause. The latter complaint is so common a one that there is hardly a male prostitute who does not suffer more or less inconvenience from it. In two grave cases of rape, laceration of the perineum occurred, in a young Irishman, who was compelled to submit to the embraces of twenty Turkish soldiers, and a lad whose chastity was violated by half a dozen shepherds. The effect on the adult is absolutely negative, excepting in extreme cases, when satyriasis sometimes hideously crowns the career of the worn-out debauchee. It is a remarkable fact, and one based upon the results of long observation, that neither onanism nor pederasty, both of which prevail to a frightful extent in the East, emasculate the *morale* of the Oriental as much as they do the European. In the former, the physician never witnesses the blushing awkwardness, the unmanly timidity, the restless vision, and the inability to look a stranger in the face, so characteristic of this habit in enlightened countries, which leads us to draw one of two inferences—that either the mental imbecility, resulting from self-pollution in moral communities, should be attributed far more to the humiliation of an educated conscience, than to the constant physical drain on the system; or that where society openly upholds a vice, it is not so apt to be intemperately abused, as when local rules of propriety and the militant precepts of religion compel the votary to invest the indulgence with strict privacy. The secret tippler generally degenerates into the drunkard, while the social glass of a liberal society rarely leads to intemperance.

Since the introduction of New England rum, and the more potent liquors of the Baltic, against whose use ingenious commentators can find no interdiction in the Koran, because they are not the juice of the grape, the far-famed race of Turkish opium eaters is fast dying out. The quiet coffee shops where, twenty years ago, they were wont to assemble, and pass whole hours in ecstasie reverie, now rarely echo with the bubbling of their water-pipes. Alas for romance! that æsthetic vice is rapidly yielding to the more seductive allurements of the glass. But should the traveler become familiar with their haunts, he may now and then see some haggard relic of the old school furtively steal into a quiet corner of the *café*, and, after hastily swallowing a bolus, sink back into a

state of dreamy unconsciousness of everything save his chibouque. The celebrated hasheesh is well known, but what is sold in the shops under that name consists of a vile compound of morphine and liquorice. We once had occasion to obtain the analysis of a quantity, to account for symptoms so opposed to the effect of the Indian hemp, and which came nigh terminating the career of a rash American physician. All inveterate opium eaters contend that use so blunts the nervous sensitiveness that large doses of this narcotic simply induce sleep, without previously exalting the fancy. To obviate this fatal deficiency, and to economize the drug, the veteran pleasure-seeker mixes corrosive sublimate with his boluses; and the enormous doses of this poison taken with impunity would exceed all belief, were they not well attested by numerous witnesses. The amount of arsenic taken constitutionally by the mountaineers of Tyrol and Styria are mere pleasantries, compared with the fabulous quantities of the bichloride which these Mithridatean stomachs can tolerate.

To illustrate this fact still further, we will give two anecdotes of a *mollah*, or priest, more celebrated for his devotions to the narcotic than for his genuflections toward Mecca. Entering one day the small drug shop of a Jew, he asked for corrosive sublimate, and, upon its being exposed on the counter, took up a handful, as if to examine the quality, and deliberately swallowed what appeared to be a mouthful. To be accessory to the death of a Turk, however accidental, is a terrible crime; hence, out rushed the Jew from his stall with a howl of terror, showing a clean pair of heels, if so bold a metaphor can be applied to a race which does not take kindly to water. The next morning, disguising himself, with fear and trembling he stealthily approached his shop, peeping around the nearest corner, and fully expecting to see it in the hands of the police; but perceiving no signs of unusual excitement, took courage and sat down in his accustomed seat. A few days after, the wily Turk, suspecting the cause of the Jew's escapade, and wishing to turn it to account, entered the door, and so worked upon his fears, by threats of prosecution for an attempt to poison one of the faithful, that the latter was only too glad to bribe him into silence.

Flushed with so unexpected a share of the hard-earned savings of an obscure apothecary, our worthy priest determined to try his luck with the far more wealthy druggists of Pera. Entering the store of a Greek, with whom we are well acquainted, he went through with the same manœuvres, swallowing, as the apothecary avers to this day, a piece of the bichloride weighing fully one drachm. After performing this feat, the priest hastily left, declaring the drug was adulterated; while our friend, in an agony of terror lest he should be murdered and plundered by a mob of fanatic priests, who would hasten to avenge the death of their brother, as hastily shut up shop, collected his valuables, and with his family fled into an obscure country town, where he passed a week of dreadful uncertainty. Before venturing to return, he had the good sense to seek the advice of a Turk, who presided over the medical



jurisprudence of the realm. This functionary, a veteran opium eater himself, merely smiled, and practically proved to the much relieved apothecary how needless had been his anxiety. Of course the *mollah* returned to make capital out of his feat, but was received so unsuspiciously by the druggist, who coolly asked whether he had been able to procure elsewhere a superior article, that, concluding the game was up, he confessed the object of his second visit, and laughed immoderately over the practical joke he had at first unconsciously played upon the Jew.

The exemption of the dogs of Constantinople from hydrophobia has long been a mystery, and, although not strictly true, is sufficiently so to render their habits an interesting object of inquiry. Resembling a cross between the fox and wolf, acknowledging no master, these city-scavengers form themselves into communities of a dozen or more, and, with surprising intelligence, limit their foraging excursions to certain squares and streets, which are considered their beats and are recognized as such by their canine neighbors. Each tribe has its chieftain or head-dog, who attains this rank, not by hereditary right, but by the power of muscle; whose torn ears, fragmentary tail, and numerous scars attest the veteran warrior—hero of a thousand fights. Although contiguous communities are perpetually at variance and annoyingly quarrelsome, yet offensive and defensive alliances are made by some mysterious pantomime; and when an overwhelming force sweeps down on any district, the four-footed inhabitants of adjacent ones, forgetting past animosities, rush to the rescue with a howl of execration. When one family becomes too large for the offal of its district, some obnoxious member is pounced upon and summarily ejected. With downcast tail, he immediately proceeds to the neighboring district, where, lying on his back, he humbly appeals to the sympathy of the chief-dog, who, with great dignity, approaches the prostrate suppliant. Should his report prove favorable, the fugitive is immediately adopted into the new tribe. On the other hand, should the numerical addition be undesirable, the exile must pass through a perfect gauntlet of bites, until he finds a less populous community.

Without shelter of any description whatever, the Turkish dog braves the inclemency of winter with impunity, keeping up the circulation of his blood, during cold nights, by perpetual skirmishes and pitched battles. In the Turkish quarters, fountains are numerous, and they can always slake their thirst; but in the European portion of the city, the dog is a much abused animal, often half starved, and often without water for days during the excessive heat of summer. Yet instances of rabies are exceedingly rare, usually occurring among pet dogs, not among those at large. The natives recognize the disease in man, and vaunt as its cure a band of music constantly kept playing to keep the patient awake, in the open air, for the forty-eight hours of the thirty-ninth and fortieth day after the accident. During the twenty-one years of our residence in Constantinople, there occurred but three deaths by hydrophobia,



all of which strangely happened in the summer of 1859. Of these three cases, two were clearly traced to the playful bites of pet animals, and the third was one of those exceptional cases, which seem to prove that sometimes the bite of a momentarily enraged dog will produce the characteristic disease.

A Bavarian gentleman, who was infatuated with a morbid desire to destroy every species of dog, in the most brutal and wanton manner, in endeavoring to beat a harmless street dog to death, received a bite from the infuriated animal. The dog had offered him no provocation whatever, and he attributed the fatal attack of hydrophobia, which resulted from the bite, as a just punishment for his former cruelties practiced on those animals.

All these victims were Europeans; because Turks rarely domesticate or abuse the dog; while the last solitary instance of a street dog communicating the disease is not a fair example. With regard to the immunity of the Turkish dog from madness, we incline to the belief that it is owing to the perfect freedom they enjoy in gratifying their sexual appetites; a municipal license which renders the streets of an Eastern city absolutely indecorous in the spring of the year. The orgasm of brutes, observing absolute laws of periodicity and dependent upon the return of certain seasons, must be far more violent than the corresponding permanent instinct in man. The libidinous fury of the stallion is proverbial; while the flesh of many animals not only becomes unfit for food, but sometimes highly poisonous during the period of copulation. Is it not, then, reasonable to infer that any restraint upon so powerful a passion might contaminate the whole system and create a new train of depraved action? This opinion may be founded on error, but it at least possesses some show of plausibility, especially when one considers that almost all instances of rabies occur in pets, whose masters, from various motives, rigorously confine them during heat. There is also another circumstance with regard to Turkish dogs, which possibly may operate in their favor—the race is pure but plebeian, unmixed with aristocratic blood; while dog-fanciers, in order to multiply varieties and improve breeds, cross and recross the various species, until the original characteristics of each are lost, and their habits become unnatural.

The criminal custom of abortion is universal in all Oriental countries. It is countenanced in the palaces of the great, and practiced in the hovel of the peasant. Since the laws which define the primogeniture of the royal succession are vague and capricious, a mistaken state policy permits every Sultan to destroy his blood relations and the offspring of collateral branches of his family. For example: the present monarch has a brother, several sisters, and three daughters, who have contracted alliances with the aristocracy, but who are prohibited from raising any issue, male or female. Abortive remedies are either employed, or the children strangled at birth by a eunuch who waits in the lying-in chamber for that purpose. Among the upper classes, both polygamy and concubinage encourage abortion as a necessary economical measure.

The poor, who always imitate the vices of their superiors, assign poverty as an excuse; until this inhuman practice, adopted by high and low, is not only sanctioned as a custom, but considered a domestic institution and a legitimate necessity.

This operation is usually performed by midwives and Jewish charlatans; although there are regular physicians who chime in with the humors of their patients. Various methods are employed; many smear the os uteri with the impure empyreumatic oil of tobacco which accumulates in their long cherry pipe-stems; others insert a tent of soft chestnut wood, which, swelling from absorbed moisture, is withdrawn to give place to another of larger dimensions. Most generally, however, a rude stiletto is used, with such want of anatomical knowledge that it rarely enters the uterine opening, and not unfrequently penetrates the inferior parietes and fundus of the womb. The fatality of this operation is very great; tetanus and metro-peritonitis hurrying the rash victim to her grave in a few days. The uncertainty of internal medicines renders them less popular; but we have seen two cases of fatal poisoning from the violence of the drugs employed.

At one time, the members of the Imperial Society of Medicine devoted all their energies to purifying this Augean stable of domestic crime, and caused the arrest of one illegal practitioner who had fatally used the uterine stiletto. At first the cabinet ministers promised an active co-operation, but, on sober second thought, pondered over the crying evils of their own large families, and the offender soon emerged from the precincts of the Bagnio with an increased reputation and practice. In the discussion which ensued at one of the sittings of this Society, it was argued that, so long as the Sultan sets the example not only of abortion but infanticide, and so long as polygamy and concubinage are sanctioned by religious antecedents, it would be impossible to enact laws against this unnatural crime. One member arose and stated the case of a nobleman who was blessed with forty-five children, and had recently been deprived of all position of emolument and sent into exile for some alleged misdemeanor. The question was asked, how could the embarrassed finances of such a man support any further increase in his family? The use of the stiletto becomes an absolute necessity. Abortion is no bastard growth, but the natural offshoot of Mohammedanism, and must be coeval with the vitality of Islamism. Other barbarous incrustations may be rubbed off by the constant attrition of intercourse with more civilized nations. But since the paradise of the Moslem embodies an attractive concubinage, which must have its prototype on earth, and since the false prophet quotes divine authority for his Ayesha, Fatima, and Miriam, his followers are bound to uphold polygamy with all its attendant evils.

The commerce in eunuchs is another evil growing out of Mohammed's pernicious matrimonial example. Wives are considered in the light of expensive mistresses, whose constancy must ever be regarded with suspicion; hence the jealousy of the husband requires



these sable guardians of the *harem*. This cruel operation is performed during the infancy of Nubian negroes, by Coptic priests, who use no instrument but a razor, and arrest any hemorrhage by the application of hot ashes or the actual cautery. There is a mistaken impression among the profession that simply castration is resorted to. But Turkish jealousy, a keen observer of comparative physiology, marks the amorous proclivities of the ox, and requires complete extirpation of the genital organs. Not only are the testes, but even the scrotum and penis, indeed every vestige of the sex, completely swept away by one stroke of the knife. The urethral orifice is left on a level with the pubes; so that every eunuch is obliged to use a short catheter in order to prevent his clothes from being soiled. The capon, ox, and dray-horse become fat and sleek; but nature abhors the unnatural requirements of the Eastern voluptuary, and stamps the eunuch with hideous ugliness. Not a hair grows on his face; the skin of his forehead and cheeks hangs down in loose folds and wrinkles; his voice resembles the harsh notes of an old woman, or breaks into the discordant key of a lad, who is approaching the age of puberty. His temper becomes irascible, and his disposition most cruel. We have never known a eunuch to be celebrated as a singer; hence we infer that the castration, resorted to in Italy to preserve the fine female voices of boys for ecclesiastical music, could only be successful when the vocal talent had become developed. To add insult to injury, every royal eunuch, according to his rank, has one or more wives, of whom he is proverbially jealous. The Kizlar Agha, or chief eunuch of the palace, ranks as the third dignitary of the empire, and maintains a large *harem*, which is kept under the strict surveillance of subordinate eunuchs. It is a perpetual joke of the court-physicians to compare notes with one another about these women; who, when sick, are so sedulously guarded that the pulse can rarely be touched, and the tongue examined only through a slit in an impervious veil. The career of these females is brief. Vicious practices; sedentary habits; a luxurious table and robes of the thinnest gauze infallibly sow the seeds of consumption. We are not prepared to uphold the author of the "Anatomy of Melancholy," in his assertion that certain esculent roots and rhizomatous vegetables are denied entrance into these establishments; but this fact remains unexplained that, in spite of a liberal supply of coal gas, the weekly allowance of stearine candles for the imperial palace amounts to fifteen thousand pounds.

Small-pox inoculation, which was introduced by Lady Wortley Montague from Constantinople into England, in the earlier part of the last century, is still very much in vogue; but in the larger cities vaccination is becoming more fashionable. In spite of the prevalence of these two methods, the great majority of Orientals are unprotected, and the ravages of this dreadful disease are often terrible. It may justly be considered the only prevailing epidemic of the healthy city of Constantinople. In distant towns of the interior, whose means of communication with the capital are diffi-



cult, the want of vaccine matter is often felt; for mothers labor under absurd prejudices, and rarely allow the lymph or scab to be taken from the arms of their children. When out of matter, we have known native quacks make use of tartar emetic, which, upon a raw surface, will produce a pustule highly characteristic of the vaccine virus. The truth of Solomon's apothegm, that "there is nothing new under the sun," is well illustrated by the wild nomadic Kurdish tribes of Asia Minor, who have for centuries practiced vaccination on themselves, invariably taking the lymph from the vesicle of the cow.

Many bigoted Mussulmans, however, object to vaccination and inoculation on religious grounds, and prefer to run the fearful risk of a terrible epidemic, than to yield up one iota of their belief in fatalism. Friends commonly exhibit their sympathy for one another in sickness, by sending their own family physician to the invalid. In accordance with the usage, we were once conducted to the palace of a high Turkish functionary, who had two children, the elder of whom lay alarmingly ill with the confluent form of the disease. A false theology rendered the parents in the end childless; for neither would allow us to prescribe for the sick child, nor vaccinate the other, although tenderly attached to both, and tearfully fearful of the result. Their objections were grounded on a belief that small-pox was a judgment from heaven, and to combat the disease or limit its ravages was a blasphemous endeavor to thwart eternal decrees.

This stern fanaticism and inflexible confidence in fatalism, which make the Turk fearless of the plague, and lead him calmly to smoke his chibouque in a powder magazine, elicit our admiration, however much we may dissent from him. Yet it is often puerile and full of absurd inconsistencies; the doctrine of fate degenerating into a pack-horse which is saddled with human eccentricities. The hands of the physician are often tied by the petulant metaphysics of his patients. A predestinated bleeding may not interfere with the Divine decree, while a draught, particularly if offensive to the taste, shall arouse a holy indignation. In therapeutical theology we have found an emetic, assafoetida, and valerian to be highly heterodox. Clysters and gilded pills, on the contrary, are pronounced canonical by the most peremptory fatalist. When laboring under a predestinated illness, a sincere Mussulman is often harassed with doubts as to the consistency of calling in medical advice. The mooted point to determine is, which physician may be the one predestinated to cure him. To soothe the qualms of a troubled conscience, he consults, at different times, as many different physicians, and obtains from each a separate prescription. All these are next submitted to the nearest apothecary, who, either with prophetic sagacity pounces on the most expensive one, or else, with thrifty ingenuousness, confesses his ignorance of vaticination, and overcomes that deficiency by the ingenious mixture of all the prescribed compounds. After such a display of quibbling logic, one

is willing to accept even Cowper's libel, who rhymes the puerile rationcination of the Moslem with happy humor.

The heroic hygienic treatment of Oriental children would frighten Dr. Combe and cisatlantic mammas. A few days after birth, the spine is scarified in its whole extent, as an outlet for the "bad blood." Salt is then rubbed into the wounds of the screeching infant, and when the complexion becomes cyanotic, through excess of screaming, the palm of the midwife sonorously impinges on the youthful buttock, upon the same principle that a dilatory watch is thumped into increased activity. It is now swaddled up; and its arms and feet so tightly bandaged that all motion, save that of the head, is denied. A cradle is finally prepared, into which the child is consigned, and where it remains, from one week's end to another, without being disturbed. An ingeniously contrived glass utensil renders all change of linen unnecessary in the maternal opinion. The mother nurses it by presenting the breast over the cradle; and as it is only washed when the mother is able to go to a public bath, which is often three miles distant, there is no earthly necessity for changing the position of the helpless sufferer. Infantile exercise appears to be one of the unpredestinated items of faith; nothing short of a conflagration will induce the parent to bear her child in her arms. Of course the mortality is frightful, almost rivaling the percentage of foundling hospitals. In this connection, let us observe that, when a new-born infant exhibits no signs of life, the native midwives do not cut the cord, but hasten the delivery of the placenta, which is rapidly transferred to a dish of coals. The only objection we can suggest to this practice is the odor; while it certainly possesses the advantage of not interfering with any other known method of resuscitation. On more than one occasion, we have deliberately pursued Marshall Hall's system of infantile gymnastics; the midwife meantime being scientifically engaged in frying the after-birth on an adjacent brazier.

The Turkish bath is certainly a great luxury, fully deserving the highest encomium. A process so familiar needs no description; but a word or two on its medical virtues may be instructive. Invaluable in chronic rheumatism, in obstinate syphilis, and cutaneous diseases, the friction of the goat-hair gloves and the artistic shampooing render it equally efficacious in dyspeptic complaints. In fatigue, from over mental or physical exertion, nothing can be more grateful; while the disheartening quantities of visible, tangible filth, which peels off from the person of the most scrupulously neat European, do violence to every preconceived notion of cleanliness. Like the far-famed elixir of life, the *Haman* seems to infuse a glow of youth, a thrill of rejuvenescence into the veins of its most aged votary; although to the novice, fibres of asbestos and a salamander-like nature may seem a welcome property in withstanding its scathing vapors.

Every national custom is liable to some abuse, and the bath, piously restricted to the precincts of a mosque, is often inaccessible to Christian communities. We were once called away to a large

Armenian town, about eighty miles from the capital, where no mosque and consequently no bath existed; the inhabitants being obliged to journey a distance of three hours to the nearest Mohammedan village to enjoy the luxury of an annual ablution. On the other hand, many natives consider two baths per annum as the golden mean; and since the same voluminous suit of clothes and linen are worn unchanged during the interval, the exhalations arising from the Eastern person, however disguised by musk, sadly disorientalize refined olfactories.

We might spin out this article to twice its length, but the impatience of our readers, jealous of amusement when they look for instruction, admonishes us to end. Turkey is a bone of contention to the snarling powers of Europe. Its end is not far distant, and will be abrupt. Political physicians daintily feel the pulse of the "sick man;" hourly whisper his death; but, however agreed on the prognosis, are by no means as harmonious with regard to the treatment. Indeed, we hazard the uncharitable opinion that more than one incline to the heroic remedy adopted by Hazael towards his master. In view of this dark future, we shall never repent having jotted down the fireside prejudices and inner life of a nation doomed to lose its nationality and existence; just as the naturalist carefully labels here a rib, there a condyle of the now extinct Dodo.

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*Eulogy on John W. Francis, M.D., LL.D. 1789-1861.* By Professor A. K. GARDNER, M.D.; read before the Medico-Chirurgical College, New York, March 7, 1861.

Travelers in foreign lands, returning full of enthusiasm, have given us gorgeous descriptions of the snow-capped glories of Mont Blanc. The man of business and figures has told us of its wondrous height; the geologist has given us the dispositions of its trap and sienite, has laid out its water-courses, described the heavings and motions of its *mer de glace*; the farmer has wondered at its fertile fields, with its fruit-laden strawberry vines beside the everlasting ice; the botanist finds enthusiasm in the mosses and algae of its rocky cliffs; the painter tells you of the sublimity of the view when the setting sun pours its resplendent rays upon its heaven-piercing peak; the poet breathes out his immortal verse at its inspiration; the dreamer gazed and gazed,

"Till the dilating soul, enrapt, transfused  
Into the mighty vision passing—there,  
As in her natural form, swelled vast to heaven."

As the Swiss mountain in the physical world, so rose the snow-



crowned head of the late Dr. John Wakefield Francis among his peers. Colossal, towering above the range of lofty intellects among which he stood—not comparatively great by isolation—many-sided, every person who knew him has formed of him an estimate more or less varied in accordance with his powers of observation, the density of the atmosphere through which he gazed, and the clearness of vision to which he attained, whether seeing only the exterior man, or after gaining access to the intimacy which enabled him to feel that great heart pulsating ardently for every noble aim, and every enterprise where the good of our common humanity was to be subserved.

The speaker of to-day for years gazed from afar upon the rugged lineaments of this hoar apostle of medicine; later was warmed into new life by the radiant sunshine ever playing around his genial front, daily feeling ever renewed evidences of that interior warmth which melted the thin outhanging ice-crusts, producing beauty, and life, and joy in its path. He has seen the interior man, noted the inexhaustible stores of native and acquired intellectual wealth, the kind heart, the generous hand. He must fail in attempting to portray them. If he can but catch the, alas! already vanished picture of one side of this huge polygonal and daguerreotype it for your observation, he will be content; leaving to those of more extended grasp to seize the whole man, and instead of the simple picture which is now to be presented to you, shall carve out a colossal statue, wanting but the Promethean spark, to be the very form and figure of him whose like we shall never look upon again.

**BIRTH AND PARENTAGE.**—John Wakefield Francis was born in the city of New York, November 17th, 1789. His father, Melchior Francis, was a native of Nuremburg, Germany, who came to this country shortly after the establishment of the American Independence. He followed the business of a grocer, in the neighborhood of Pearl and Fulton streets, where the doctor was born, and was distinguished for integrity and enterprise. He fell a victim to yellow fever. Dr. Francis's mother was from Philadelphia. Her maiden name was Sommers, of a family originally from Berne, in Switzerland. It was one of the favorite historical reminiscences of her son, that she remembered when those spirits of the Revolution, Franklin, Paine, and Rush, passed her door on their daily associations, that the children in the neighborhood would cry out, "There go Poor Richard, Common Sense, and the Doctor."

Those familiar with our deceased friend well remember the bursts of enthusiasm with which he ever greeted the mention of the name of Franklin, and particularly that ebullition of feeling and oratorical expressions, when, after his return from the annual meeting of the American Medical Association in 1849, in Philadelphia, he described his visit with Drs. V. Mott and R. H. Kissam to the quiet and unostentatious grave of this great patriot and sage. It was with him a pleasing fancy, that in personal appearance he bore a considerable resemblance to one whom he so rever-

enced, and who, like him, had commenced life at the printer's galley, earning his daily bread setting type and handling the composing-stick. Thus this association is not merely a matter of fancy, for in early youth Francis was apprenticed to the trade of a printer, in the office of the strong-minded, intelligent, and ever-industrious George Long, at that time a prominent bookseller and publisher. In after years he related the anecdote of the hours stolen by young Francis from meal-time and recreation, as sitting under his frame, he partook of a frugal apple and cracker, at the same time eagerly conning a Latin grammar. Even at this date he was one of the few subscribers to the slowly issuing English edition of Rees's Cyclopædia, to which he afterwards contributed valuable articles, to the benefit of the work and markedly to his own literary reputation.

The love of letters was, however, not limited to mere type; but, ambitious of higher duties and occupations, by the kindness of his master his indentures were canceled, that he might pursue the career to which his taste urged him, and which, fortunately the easy circumstances of his then widowed mother rendered feasible, and he fitted himself for college under the charge of the learned preceptors, Rev. George Strebeck, and the classical Rev. John Conroy, of Trinity, Dublin. He was thus enabled to enter an advanced class of Columbia College, graduating in 1809, receiving his degree of A. M. in 1812.

In 1807, while yet an undergraduate, he entered the office of the renowned Dr. Hosack, then in the prime of life and height of metropolitan reputation. The remarkable assiduity, zeal, and untiring perseverance, which his late cotemporaries have noted with wonder, may be seen to be characteristic of the man, and no occasional freak or exception, stimulated by a peculiar and remarkable ambition. Dr. Hosack gave his warm approbation to this assiduous devotion, and stated that, "during the period of his professional studies for four collegiate years, he never absented himself from a single lecture, nor attended one without making notes or abstracts on the subject taught by the lecturer." "What an example is this," well says Allibone's very valuable Dictionary of American Authors, "to the students of the present day, and how great has been the reward in large stores of professional erudition, in public esteem, and national reputation, for the hours thus devoted to the acquisition of useful knowledge!"

In 1811 Dr. Francis received his degree of M.D., from the College of Physicians and Surgeons, which had been established in 1807, under the presidency of Dr. Romaine, and which had been reorganized, with Dr. Bard at its head. Francis's name was the first recorded on the list of graduates of the new institution. His thesis upon the *use of mercury* was afterwards published in the *Medical and Philosophical Register*, and gained the author much reputation. It was full of medical research, and was the pioneer of the long train of writings and labors which has given so much eclat to his name.

With his professor, Dr. Hosack, he was much esteemed, who immediately proposed a medical copartnership, which flattering testimonial to his talents and acquirements was, of course, accepted, and continued till 1820; and the fruits of which were not limited to his profession, but their names were united in many schemes for literary and social improvements.

In compliment to his acquirements, Dr. Francis was appointed, in 1813, Professor of the Institutes of Medicine and Materia Medica, when the medical faculty of Columbia College and of the College of Physicians and Surgeons were united; and shortly after his popularity with the students gained him the position of President of the Medicó-Chirurgical Society, in which he succeeded his friend, Dr. McNevin, whose biographical notice he furnished, but a few months prior to his death, for *Gross's American Medical Biography*, just issued.

AS A TEACHER.—And now fairly began that life of labor and love conspicuous to the end of Dr. Francis's career. A graceful though not eloquent talker, clear and cogent in his teachings, and free in his diverging utterances to catch up happy and remote conceits, he became a pleasing and popular lecturer. His whole soul was in his work. Between lecturing, visiting patients, and writing for medical quarterlies, he was kept incessantly busy; for at this time, besides his professorial duties, he was co-editor, with Hosack, of the *American Medical and Philosophical Register*, founded by them in 1820, and attending to the largest practice then in the city. The receipts from his profession were for many years \$15,000; and considering the fact that at the time he commenced practice the population of New York was but 68,000 souls, it may well be compared even with the apocryphal sums of more modern days. He taxed his energies beyond their strength. His friends advised him to visit Europe. He went to Europe, undermined by toil and disease, and with the enthusiasm of his profession, went hunting after the medical celebrities of the Old World. He became acquainted with Abernethy, Brewster, and Sir Astley Cooper. For literary men his penchant showed itself thus early. He saw and conversed with Byron, whose passionate verses and lyrical revelations of a dark, gloomy and restless life were the theme of every tongue. To Sir Walter Scott, the mighty magician of romance, he was introduced, and he has since written a charming account of his visit to the Scottish bard and novelist. His pen while abroad was not unemployed, as during his stay he wrote several articles for Rees's Cyclopædia, those on New York and Rush being the most memorable. These articles contributed greatly to the literary and professional reputation of Dr. Francis, and perhaps were the seal required to convince the skeptical of his great natural and acquired powers; for at that period none abroad read an American book, nor at home believed in anything indigenous.

After extended travels in Europe, with visits to its most remarkable places, acquaintanceship with its renowned men, he returned



to this country, bringing with him renewed health, a fund of anecdote, reminiscence and valuable knowledge, most remarkable and unfailing. Those only who have enjoyed the delicious privilege of the unrestrained communications of personal friendship can fully recognize the benefits acquired by this transatlantic experience.

Any narrowness of mind, so natural to one ignorant of all save the peculiarities of a provincial town, any petty conceit of home and its various productions, or even more snobbish idea that for all excellence we must look abroad—that none originated in our own country and nation—did any such feeling exist in the mind of Dr. Francis, ever after there was no evidence of it. Catholic, comprehensive, discriminating and honest, with him the mind had no country, and literature and science were cosmopolitan. Before their possessors he bowed himself in deep respect, while the mere holder of sordid wealth, especially if ignobly gained, penuriously hoarded or profligately spent, he passed with the least possible recognition of their existence. As the poet Tuckerman has stated in his beautiful obituary, "For genius and worth he reserved his best sympathy, caring nothing for luxury, show, or riches. The society of an intellectual friend, the comfort of domestic love, the acquisition of a memorial of genius, the advancement of a patriotic, charitable, scientific, or literary cause, were to him the great charm and privilege of life."

Upon the return of the young traveler to New York, with many choice works, the foundation of his now renowned library, he was appointed Professor of the Institutes of Medicine in the College of Physicians and Surgeons, and in 1817, on the resignation of Dr. Stringham, he also succeeded to the department of Medical Jurisprudence. Two years later, in addition to his former duties, he also became Professor of Obstetrics, and filled this post till 1826, when he resigned, with his colleagues, Drs. Hosack, Mott, McNevin, and Mitchell. A majority of the faculty organized a new school, called the Rutgers Medical College, in which Dr. F. held the chair of Obstetrics and Forensic Medicine. The classes were large and the success of the school most satisfactory, but in consequence of discussions and quarrels with the rival school, in which it is not necessary here to enter, by legislative enactment the school was dissolved, after a successful career of four years. With this ended Dr. Francis's twenty years' labor as a public teacher.

AS A MEDICAL WRITER.—His career as a writer was, however, far from finished, and, except in a professional way, but scarce begun. Up to this period, the following list enumerates the most labored and enduring of his writings: Articles in different medical periodicals on obstetrics, vitriolic emetics in the membranous stage of croup, *Sanguinaria Canadensis*, Iodine, the goitre of Western New York and Canada, on medical jurisprudence, yellow fever, death by lightning, caries of the jaws of children, elaterium, ovarian disease, &c. He has published an essay on the "Use of Mercury" (8vo, New York, 1811); "Cases of Morbid Anatomy" (4to, 1814); "Febrile Contagion" (8vo, 1816); "Notice of Thomas

Eddy the Philanthropist" (12mo, 1823); "Denman's Practice of Midwifery, with Notes" (8vo, 1825); "Address before the New York Horticultural Society" (1830); "Address before the Philo-lexian Society" (1831); "Letter on Cholera Asphyxia in 1832" (8vo, 1832); "Observations on the Mineral Waters of Avon" (1834).

Of these, the doctor himself thought most highly of those on vitriolic emetics in croup, an original and successful practice on his part; those on croton oil, elaterium and iodine, which he introduced to the American community; and that dated London, 1816, in which he first noted the rare susceptibility of the human constitution to a second attack of pestilential yellow fever; but among the profession his erudite labors in editing the Midwifery of Denman, far behind the present knowledge in this branch as it is in some respects, yet it is in itself so marked in its advance upon previous knowledge, and so greatly increased in value by the expansive intellect of its American annotator, that it is very properly rebaptized Francis's Denman, and will long remain an enduring monument of the professional zeal, acumen, research and industry of its editor.

Released from the mill-horse routine of professional duties, the doctor found time for the more congenial employment of the leisure which could be enjoyed in the intervals of an ever large professional business. Not, like most men, relying upon a local, family practice, Dr. F's *clientelle* were the men of all climes and places, who, sojourning in the city, suddenly taken ill, sent for the physician whose fame had penetrated into the remote quarters whence they came. He delivered numerous addresses before societies of all descriptions; among them, on Anatomy of Drunkenness, a Discourse before the New York Lyceum of Natural History (1841).

In 1846, Dr. Francis united with Drs. Mott and Stearns in forming the New York Academy of Medicine. Owing to the existence of numerous cliques among the members of the profession, the first President was selected from among those who were aloof from all such organizations; and accordingly, Dr. John Stearns, the discoverer of the parturient virtues of ergot, a comparatively recent resident, a man of considerable legislative ability, and the oldest practitioner in the city, was elected to fill this high office and inaugurate the career of the Academy, and his term expiring by limitation, Dr. Francis, in 1847, was elected the second President of the Academy, and again at a subsequent period when eligible by statute, was re-elected. He delivered several addresses before this body (1847-8-9), but his anniversary oration, the first of a series, since annually delivered by various members of the Academy, did much, by historic reminiscences and high-toned character, to elevate the Academy to the important position it has held in this community and the country. Delivered in the old Tabernacle—now itself become historical—the building, large as it was, could admit but a small portion of the crowds that were attracted by the fame of the speaker. It was estimated that 10,000 came

to listen, while the building held but 3,000 when completely full.

The pursuits of his early days were not forgotten, and in recognition, he delivered addresses, replete with historical associations, before the Typographical Society of New York "On Dr. Franklin" (1850), and "On the Publishers, Printers, and Editors of New York" (1859).

The most elaborate of his historical recollections formed the subject of a double lecture before the New York Historical Society (1858), on "Old New York, or Reminiscences of the last Sixty Years." This was one of the happiest of his literary productions; rich in reminiscence, minute in detail, humorous, quaint and genial, redolent with kind feeling, and pervaded throughout with the characteristic *bonhomie* of the doctor, it will undoubtedly remain the most enduring of the productions of its erudite author.

A memoir of an eccentric New Yorker, of some ability, descriptive of old New York, its appearance, and some of its most noted inhabitants, some discourses at Bellevue Hospital (of the Medical Board of which he was President ever since its present organization, and to which he was elected Honorary President when upon his death-bed), and some later memoirs of his old associates, Drs. McNevin and Mitchell, complete the long and honorable list of the literary achievements of the illustrious deceased.

HONORS.—These various labors were not without recognition from the world. Besides those already alluded to, he had the high and rarely accorded honor of being chosen Foreign Associate of the Royal Medico-Chirurgical Society of London, and, with De Witt Clinton, member of the Wernerian Society of Edinburgh, and other scientific associations abroad. In 1850 he received the degree of LL.D. from Trinity College, Hartford, Connecticut; and in 1860 this honor was duplicated by his much esteemed Alma Mater, Columbia College, of this city. This distinction, so charily bestowed by Columbia, was feelingly welcomed by the recipient, who reflected back the honor conferred upon him; yet still the duplex doctor continued to distribute his immemorial triplex pills. He was, from its foundation, President, and most actively engaged in promoting by every means in his power the noblest of modern charities, the Woman's Hospital of this city; and a week before his death he was elected President of the State Inebriate Asylum, at Binghamton. It is believed he had in a state of advanced preparation the addresses to be delivered at the laying of the corner-stone of the one, and the celebration of the completion of the other. It is to be hoped that these papers will not be lost; and I will suggest as a fitting compliment to the memory of the departed, that if such addresses exist, they be read by the highly educated and talented sons of him whose spirit will be with them on those eventful days.

We have thus rapidly sketched the principal public literary incidents in Dr. Francis's career. A few other more personal events are to be noted. In 1829, he was married to Miss Maria Eliza



Cutler; a union which not only united him with a family of extended reputation, wide connection, and ample means, but which in itself was all that could be attained by mortals below. Those who are favored by the personal acquaintance with this bereaved widow well know how intimate was that union; how perfect was the assimilation of soul, and how entirely the life of the one was blended into that of the other. That Dr. Francis achieved all that he did, is in no small degree owing to the opportunity afforded for the expansion of his genius, by the freedom from domestic cares, by the methodical disposition of household matters, by the relief from many of the annoyances, petty vexations, and harrassing disturbances incident to the life of a practicing physician. She it was who attended to the innumerable callers desirous of the doctor's signature to petitions, influence with parties, or mere loungers, aiming only to pass off their vacant hours agreeably. She received his professional calls, arranged his numerous consultations, remembered the ages of the children in his practice, provided virus, and saw that they were duly vaccinated. She attended to the nightly calls, thus preventing the exposure which, to the doctor, was so apt to be followed by most serious laryngitis. I have necessarily alluded to these facts, because to them the doctor owed so much of the time which he used to such good purpose, and because it seemed due to pay a passing tribute to the exemplary, devoted, genial, beloved woman, the pattern doctor's wife.

Three sons were the fruit of this happy union; boys that any parent might proudly claim as Cornelian jewels. One, alas! has preceded his father to the unknown world—taken away in the prime of life, in the first flush of earthly honors undoubtedly within his reach, conspicuous for unusul talents, unwonted attainments, kindly heart, and manly beauty; the cold tomb has early received this extraordinary promise, and the father and son are now reunited.

AS A PUBLIC BENEFACTOR.—Thus far we have performed but the easy task of cataloguing the perfected results of a life of three-score years and ten, in little more than a single point of view, and that a literary one. In this *résumé* no mention has been made of the ever-ready assistance rendered to the writers, historians, and orators of the time, many of whose sonorous periods have been pointed by his assistance, and their value enhanced and truthfulness authenticated by his retentive memory; were these recognized, pages and chapters from many a noble work would pass to his credit.

The labors in other directions—the encouragement by thought, personal attention, and personal influence, which have stimulated others in like situations, and which have resulted in glorious fruitations—their record is to be found in the existence of many noble and beneficial institutions. Not referring to the New York Academy of Medicine, the Binghamton Inebriate Asylum, or the Woman's Hospital, already alluded to, we can see their fruits in the Historical Society, in which he officiated in its early days as libra-

rian and general director, whose ornate library building attests his energy, enriched as it is by treasures of almost antediluvian antiquity, obtained in consequence of his untiring zeal and persistent entreaty.

Large as is this enumeration, multitudinous and comprehensive as are the details, we feel that it altogether conveys but a poor idea of the mental powers of the man; and even when it is recognized that for very many years his daily sleep was only from two to four hours at the most, can we appreciate the indefatigable industry which enabled him to compass so much.

MENTAL ANALYSIS.—The faculty of industry, however, is a more common and less conspicuous gift than memory. This was, if not the pre-eminent, certainly the most astonishing, characteristic of the venerable deceased. Observation must have been almost as well marked among the cranial developments; for had he not noted the pimple upon the right ala of the nose, the scar on the left ear, or the want of a fifth brass button on one side of a green coat, as narrated by Dr. Sims—had he not noticed these trifling peculiarities, how could he have recalled them twenty, and even forty, years afterwards? Indeed, he has stated that he was oppressed by the minutiae of his remembrance, and that forgetfulness would sometimes have been welcomed.

“Through the shadowy past,  
Like a tomb-searcher, memory ran;  
Lifting each shroud that time had cast  
O'er buried hopes.”

The readers of his varied works, and far more those who enjoyed his society, will ever remember the daguerreotype clearness with which he painted the portraits of the men of past times and bygone days.

Nor was it solely forms and events that his tenacious memory held in its iron grasp; places and dates precise to the minute, and the exact sequence of long-past actions—so many wonderful examples of this priceless gift are on record and in remembrance, that it is unnecessary to record them here. It was to this marvelous faculty that he owed much of his greatness. He never forgot the pages of science or poetry, the remarks of sages and philosophers; the appearance of objects were impressed upon his memory, and stood out as plainly after years had rolled by, as do the tracks of birds, and the anatomical characteristic of the fern-leaf in the now everlasting rocks of the mountain. It was to this faculty that he owed the power of interesting, often instructing, even the most erudite in their own special branch of knowledge, by reference to the works of writers of past days, who, superseded by newer lights, had, with all their richness of detail, been thrust aside for newer gods.

To industry and memory add enthusiasm—perhaps the key to the former, and the assistant of the latter—certainly that which made the orator, the warm friend, the genial companion. “What-

ever his head found to do, he did with his might:" was it the simple greeting of a friend, or a distinguished stranger; was it the advocacy of a political opinion, the arrest of a murderous swill-milk traffic, a discussion on the communicability of yellow fever; or the erection of a charity, Dr. Francis's whole soul was enlisted, and he stopped not at any obstacle. How his energetic greeting has cheered the heart of many a desponding doctor, fainting by the wayside, weary of the long days preceding tardy success! "My dear doctor," he would say, "don't despair, there is a great deal in you. Take care of your precious health; that last production of yours has crowned you with immortal honor; you will be remembered when poor Dr. Francis is under the sod. Go on, my dear doctor; I see all you do, and what you can and will effect." How cheering fell these gracious words upon the desponding ear! How many, while well knowing that there was a certain amount of exaggeration in these encouraging remarks, yet in his heart hoped, perhaps believed, that they were not all exaggeration! and that half-thought, that hope, was a cordial to his disappointed soul. The reflection that the clear-sighted, the renowned Dr. Francis had uttered such like words as these—why, one could almost point to the very flag-stone where he once stood, and sunning in his presence, drank in his honeyed words.

It was the enthusiasm flowing from his freshness of heart that belied his venerable looks. He was thus ever young; never too old to learn; never too old to teach; never too old to enter heart and soul, body and mind, laboriously and pecuniarily into any scheme for advancing the great interests of humanity, the good of his country, or the service of an individual.

"He had a genuine public spirit, such as distinguished our early race of statesmen; he loved his country, he loved knowledge, he loved eminent men—his native city, institutions, characters and places—with the ardent feelings of an enthusiast, and the loyalty of a faithful citizen. It was this going out of a limited personal sphere—this identification of himself with what he admired and loved, that kept him morally alive to the last, and endeared him to so many friends of widely different stations and pursuits. While men of letters sought encouragement in their lonely and often profitless toils from his active beneficence and warm praise, the ignorant and poor blessed him as a kind healer of their infirmities. In our age of material prosperity and self-absorption, this generous and genial type of character has become rare."—[TUCKERMAN.]

AT HOME.—If thus, in his public career, he appeared to be every inch a man, his true place was in his own house; in the old, long-to-be-remembered residence, whose solid walls, which had witnessed so much joy, and alas! in the death of his son, so profound a grief—which had welcomed the greatest of modern rulers, the orators, statesmen, poets, professional men of all grades, lands, and tongues, the fairest of earth's creatures, poetesses, sculptors, painters, sages, mere antiquaries, delving and collaborating historians, the great, and those to be renowned. Here the doctor was himself—



acting upon the spur of the moment, speaking the words which the occasion suggested; now to a blooming miss, anon to an academican, to an astronomer, a conchologist, a foreign traveler, the discoverer of the North Pole; he advanced no theme which he could not discuss understandingly and elaborately—his mind, like a diamond from its numerous facets, showered streams of glowing, prismatic light, refracted and gorgeous, illuminating and developing. However erratic and wandering in his discourse, in home conversations, or in the discussions of learned assemblies, he was ever luminous and interesting, like those divergent rockets, called “chasers” by the boys, which, though uncertain in their aim, and tortuous in their course, still flashing, carry the beams of new light into regions before darkened and obscure.

Here was a home indeed. No matter whether at the dearly cherished No. 1 Bond Street, in past days a residence considered almost palatial, and, with its associates, the end of a walk to see the glories of New York architecture—or in the more modern structure of brown stone, with its plate glass, in 16th Street—the place was little; the home consisted in that cherished circle, into which came no bickerings, no heartburnings, no envies—the translation from this to a world on high could scarcely seem abrupt.

In his interior character, Dr. Francis was eminently lovely. Frequent inflammation of the larynx had given his voice a raucous tone, yet his kindly manner, and his warm smile of greeting, soon allayed the fears of children alarmed at his portly figure and his long gray hair, and clothes cut in the style of the fathers.

**POLITICAL AND RELIGIOUS SENTIMENTS.**—In regard to the great questions of the day, the doctor held strong conservative opinions. An old Whig of the Clay and Webster school, having no political ends to subserve, he saw no necessity for changing his views; but to the last opposed to the agrarian democratic views as developed by Cobb and Floyd, he saw daily new reasons for the propriety of his actions in opposing the election of judges by ballot, in advocating a protective tariff, and the like. At the last Presidential election, fearing the results which have come upon our nation, he voted for the party ostensibly the Union party—Bell and Everett.

In religious matters, in the conflict of views, he was, till within a few years, unsettled in his opinion respecting tenets and dogmas. Possessing among his friends clergymen of all denominations, recognizing in all devotional feeling and true religious actions, yet so divergent in their doctrinal views, the great problem of man's present and future being was inexplicable. “I don't comprehend it,” he said once to me, “but it is clear enough to others; my cook and that chimney-sweep understand it; they have no doubts, no misgivings.” But the later years of his life were marked with more religious serenity, and he accepted in faith the fundamental doctrines of Christ. This uncertainty made him tolerant of the opinions of others; and while he could listen like a philosopher to the fanatical confidences of Genet, he opened the lecture-room of the College of Physicians and Surgeons in Barclay Street to the

first Unitarian sermon ever preached in New York, by the pure-minded Channing, when intolerant bigotry had denied to this then feeble denomination every hall in the city.

**HIS GENERAL HEALTH.**—During the long-protracted life of Dr. Francis, he enjoyed unusual health and vigor; although he had had the yellow fever and small-pox, and during his illness with the former he was comforted by the sight of his coffin, brought in to facilitate his removal; till, in the year 1823, he had a serious attack of laryngitis. He had been, prior to this first attack, unusually robust; and, naturally sanguineous, this disease assumed a most acute inflammatory type. Educated in the old-school doctrines, he practiced upon himself the views he had taught, and so earnestly defended ever afterwards, and during this illness had taken from his own arm a quantity of blood which has ever since been quoted as the most ultra carrying out of the depletory doctrine to a successful termination. On the 17th November, venesection to 3xl.; evening, 3xx. 18th Nov., 3xvj.; evening, 3xvj. 19th Nov., 3xvj.; evening, 3xvj. 20th Nov., 3xvj. 22d Nov., 3xij. Total, 3elij. Three or four days after, being still in a precarious condition, venesection was again repeated. Numerous less serious attacks occurred afterwards, and for which he bled himself more than one hundred and fifty times. The first great shock to his system was in consequence of the loss of his eldest son, before alluded to, from which sad dispensation he never fully recovered. His nervous system was again greatly disturbed by the excitement incident to the removal from Bond Street, where he had lived so long, to a more suitable residence, away from the turmoil of business, the noisy street, and the attendant dust and smoke filled air. For many weeks sleep seemed departed from his pillow, and in the week's seven days he slept little more than as many hours.

**LAST ILLNESS.**—From this, however, he seemed to have quite recovered; for, when fairly settled in Sixteenth Street, cheerfulness, appetite, and vigor returned, and he again entered upon his usual life of activity and beneficence. Early in December last, he was seized with an ominous carbuncle upon his back, in the dorsal region, which attained to the magnitude of six inches in circumference; and when this had reached its maximum, a more huge one still made its appearance in the lumbar region, which swelled to the enormous dimensions of nine by seven inches. Coincidentally, numerous smaller ones, from the size of a nut to that of a hen's egg, appeared around. Such a mass of carbuncular disease never fell under the notice of his experienced attendants, Drs. R. H. Kissam, Valentine Mott, and W. H. Van Buren.

While this disease progressed, an aphthous affection of the mouth, throat, fauces, and the entire mucous membrane, as far as the eye could reach, so disturbed his powers of eating, digestion, and assimilation, that starvation seemed imminent; but after some two weeks' continuance this unpleasant symptom disappeared, and with the return of a good appetite and the assimilation of nutritious food, it was hoped that he would be able to support the reparative



process now going on in the diseased parts. But while the hopes seemed about to be crowned by a successful issue, an abscess appeared in the popliteal space, and extended well up the posterior face of the thigh. After some days this was opened, and a large quantity of healthy pus withdrawn, with apparent relief. This additional drain upon his system was, however, too much for his constitution to sustain, and for several days before his final departure he had frequent attacks of exhaustion, and nature was evidently sinking, till, in the course of the night of Thursday, it was apparent that he could not long survive. Serene and calm, as he had been during his whole illness, he expressed his entire resignation to the will of God, and met this trying hour with composure. Seeing his family gathered around his bedside, he said, "It is a very solemn thing to see you all around me—how characteristic of an exit!" Shortly after, turning to his dear friend and attentive physician, Dr. Kissam, he said, "God bless you! Blessed be God! Blessed be Jesus Christ!" He then asked if he could turn over, and immediately after being assisted to do this, he said, "I'm gone! I'm dead!" These were his last words, for in less than three minutes from this time, at the close of nine weeks of great suffering, at a few minutes before three o'clock of Friday morning, February 8th, Dr. John W. Francis calmly, and without a struggle, entered the unknown world.

— like a time-worn clock,  
His weary wheels of life at last stood still.

Dr. Francis was essentially a representative man. Many looked upon him as a type of the Knickerbocker settlers of New Amsterdam, with whom it is seen he had no affinity; yet still his short, thick-set frame, which weighed about one hundred and ninety pounds, his straight-bodied coat and vest, his white neckerchief, broad-brimmed hat, inseparable cane, and gold spectacles, made a unity in look which fancy associates to the early Dutch settlers. This pleasant figure will be henceforward missed from our streets. To the medical profession his loss is irreparable. Among our silent members his ever-ready utterance, his quaint ideas and historical reminiscences, his polysyllabic, Johnsonian language, will no more be heard. He who was ever ready to say kind words of others now needs others to speak for him. To the literary world his departure will be mourned. No needy writer ever failed to get his subscription and his influential name to his list; and if among the choice works which compose the large library he has left behind there be found a few deserving to be called trash, be assured that his head did not select if his heart paid for them. It would be curious to know the number of books and pamphlets dedicated to him! They must exceed a hundred in number, of all characters and descriptions; books of prose and poetry, on medicine and other sciences, pamphlets, and sheets of music. Within a year, one day's issue of the ever-teeming press brought three inscribed to him in words of admiration and affection.



Finally, the poor will sadly miss him. It has been well said, "that beneath a lively and off-hand address" he kept a heart "open as day to melting charity." His purse was never closed to the needy even in seeming, while his professional toils were freely given to soldiers who had battled for their country's honor; artists who had perhaps once been something, or belonged to the professions of Cooke, Siddons, Garcia, De Begnis, Malibran, Sontag, or Grisi, whom he so much loved to see and hear; to the clergy of all denominations, to the sons of the sons of an old friend, or to a favorite household servant—these he attended, in larger numbers than any other professional man that I know, with a fidelity unsurpassed by that accorded to the wealthy and those in high positions, and whose tears of gratitude dropped upon his bier was all the return he received in this world.

And what is the result we arrive at by this contemplation? We see on the one hand incessant devotion to duty, persistent toil, a kindly heart, a generous hand; and on the other a quiet mind, honor, the love of one's fellows, the tears of the poor, the gates of heaven.

Can that man be dead  
Whose spiritual influence is on his kind?  
He lives in glory; and his speaking dust  
Has more of life than half its breathing moulds.

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*The Claims of Military Surgeons for Rank and Authority.*  
LECTURE I. PART II. By FRANK H. HAMILTON, M.D.

It is with some reluctance that we shall call your attention to other subjects, having no very intimate relation to the general theme of our discourse, yet possessing a peculiar interest in their relations to the public service, the profession of medicine generally, and the medical gentlemen of the army. We allude to the subjects of rank and of authority.

Ever since the establishment of a medical department in connexion with armies, or until within a very recent period, it has been customary to consider and hold the medical officers, of whatever grade, as subordinate to the other branches of the service—confering upon them neither rank nor authority in any case. The practice has been thought to be unjust to an honorable profession, and of doubtful utility to the public interest; and from time to time the subject has been pressed upon the consideration of the various governments by distinguished army surgeons, both in this country and upon the continent of Europe, whose representations have had the effect, in many cases, of bringing about certain manifest improvements, although they have failed anywhere to accomplish all that is desired.

In relation to *rank*, probably the most decided step in advance has been made in our own country by the Act of Congress approved

Feb. 11, 1847, which declares that "the rank of the officers of the Medical Department of the Army shall be arranged upon the same basis which at present determines the amount of their pay and emoluments: Provided, that medical officers shall not in virtue of such rank be entitled to command in the line or other staff departments of the army.

This was a well considered and enlightened act of legislation, intended to remove the medical officers from that position of subordination where they had so long been subject to petty annoyances, and even to the insults of inferior officers of the line, and to secure for them those courtesies, and that respect, which they had a right to claim. It conferred no authority to command, nor any privileges which one gentleman ought ever to hesitate to concede to another; but it is well known that, from the time of the passage of the act until the present moment, a few officers of the army and navy have persistently refused to recognize its obligations, and that they habitually and openly violate both its spirit and its letter.

We wish especially to exonerate from this charge the great body of the army and navy officers, by whom the medical officers have been uniformly treated with the greatest courtesy. The exceptions, however, have been found to be sufficiently numerous, in which the officers of the line have refused to comply with the law, to call forth repeated remonstrances from the surgeons, and to render it proper in the opinion of Surgeon-General Lawson to issue a circular, recommending to medical officers a conciliatory but decided stand, reminding them that "encroachments promptly met will be more promptly checked; while any evidence of irresolution, or want of confidence in the correctness of their position, might lead to further aggression."

We understand those who refuse a compliance with the law to say, in justification, that surgeons are non-combatants, and that to combatants alone, upon whom, they affirm, rest the hazards and responsibilities of war, rightly belong its honors.

This distinction has been made before, and it has been the constant pretext for opposition to the conferring of rank upon medical officers; yet we deny that it has any foundation in fact, and it is plainly calculated, if it is not intended, to depreciate our position and to underrate our services. Says Dr. Tripler: "The old distinction between combatants and non-combatants, as applied to the medical officer, has been roughly handled, and in not a few instances scouted as absurd by officers of the highest rank in the British army." In our own army they are the only officers of the administrative branches of the general staff whose duties require them to be present on the field of battle. In the brilliant campaign of Gen. Scott in Mexico, the medical staff was the only one that had an officer killed or wounded. No officer of the Quartermaster, or Subsistence Department, was either killed or wounded. To any one who understands the meaning of terms, and the duties of these departments, to call one of them combatant in contradistinction to the other, as a pretext for conferring military rank upon that one



and denying it to the other, is simply absurd. We may say as Cicero did of the Roman augurs: "We cannot see how two men, maintaining that opinion, can look each other in the face without laughing." Dr. Tripler properly adds: "Inveterate habit in the abuse of terms has drifted us thus far unresistingly with the notion that the Commissary of Subsistence, who purchases provisions in Cincinnati for the subsistence of the soldiers, is a combatant, while a medical officer is officially a non-combatant."

If exposure to hardship and danger is to be the ground upon which rank is to be conceded to officers of the army or of the navy, we think the claim of the medical officers may be easily determined. The medical officers are exposed to the same hardships on the march or in cantonment as the officers of the line; and while the latter have to incur the hazards of battle only occasionally, perhaps but once in a campaign, the former may be said to be doing battle daily, being constantly subjected to the dangers of pestilence by their exposure to the contagions and infections of crowded and unwholesome hospitals. We have not the statistics before us upon which to base a positive statement, but we entertain little doubt that, were the facts known, it would be found that in proportion to the number employed in any campaign, the number of deaths, or of invalided in the medical staff, by the ordinary casualties and exposures of the service, is greater than in any other department.

But as compared with the quartermaster or subsistence officers, the hazards of the medical officers are undeniably greater. The services of the first are never required upon the field; while the surgeons are expected to accompany their respective regiments until the action commences—and then only to retire to some position of comparative, but not absolute safety. The instances upon record in which medical officers have been wounded and killed upon the field of battle, when in discharge of their appropriate duties, are numerous. In savage warfare very little respect is usually paid to any theoretical distinctions between combatants and non-combatants; and in civilized warfare the distinction is by no means constantly observed by an excited and disorderly soldiery.

Surgeon Dunigan, writing from the Crimea during the siege of Sevastopol, states: "Already one medical officer has been killed and two or three wounded. The first, Mr. O'Leary, Assistant Surgeon of the 68th Regiment of Light Infantry, was actually cut in two by a cannon-ball while in the act of assisting a wounded seaman. It is only to be wondered at that more casualties have not occurred among the medical officers, for during the heat of the fire they are constantly called from place to place, running along the batteries, through the line of fire, in quest of the wounded. During the second bombardment this peripatetic system was very trying and fatiguing, for the soil was heavy and tenacious from the torrents of rain that then deluged the trenches; and instances occurred where officers' boots drew off while running along to assist the wounded\*\*\*\*\* "On the whole," he remarks, "this trench duty is very trying and hazardous; and in performing it, the medical men



run the same dangers, if not more, certainly not less, than the executive officers, who are generally stationary in a battery, while the medical officer, as ubiquitous as possible, is rushing in all directions to succor the wounded."\*

Dr. Jarvis, surgeon in the U. S. Army, in a letter dated Oct., 1846, describing the attack upon Monterey, says: The nearest and only shelter that presented itself to me for the wounded, falling every moment under a most destructive fire, was a quarry pit, four or five feet in depth, and the same in breadth. Several of these were contiguous, and to them I directed the wounded to be carried. By stooping we were protected from the shots, which, however, became every moment thicker, owing to the fact that our troops had by this time advanced within range of the enemy's fire, and the moment they perceived a party of men bringing the wounded to us, they directed all their guns upon it. I had already performed one amputation, and was preparing for a second, when two or three fugitives rushed into the pit, falling over the wounded that lay there crowded together, saying that a large body of lancers were approaching. So little credit did I attach to their report, which I ascribed rather to their fears than to the actual presence of this dreaded description of troops, that I never raised my eyes to observe them, which circumstance doubtless saved us all. Had I been discovered, all would have been massacred, as in their headlong fury they would neither have delayed to ascertain our character or profession, nor have paid much respect to our patients. Several soldiers who had sought an adjoining pit, with an officer, were slain."

Several times, subsequently, during the engagement, Dr. Jarvis was compelled to change his quarters, owing to the constant and heavy fire which was kept upon the parties approaching with the wounded, whenever they were discovered by the enemy. And although it is true that the ambulance flag is generally respected, yet this, with many other similar examples to which we are prepared to refer, sufficiently shows that the exceptions are not rare.

The life of Larrey was frequently exposed to the most imminent hazards upon the field of battle. At Waterloo he was taken prisoner, and was upon the point of being shot, after having been robbed of his watch and purse, when he was recognized by a Prussian surgeon, and his life saved.

We wish, moreover, to remind the officers of the executive department of the army, that while there are many points of antagonism between their duties and those of the medical department, there are also some points of parallelism, and such as ought to suggest a sympathy and fraternity of feeling. If bravery is a quality of excellence in those who call themselves the "fighting men," when have medical men, either in or out of the army, shown themselves cowards? Not at Norfolk; not at Sandusky; not at Bellevue; nor anywhere else, so far as we know. Napoleon always

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\*N. Y. Jour. Med., vol. 15, 2d series, p. 424, from Med. Times & Gazette.

called his medical officers "my brave surgeons;" and we believe that no class is less amenable to the charge of cowardice than medical men generally. They are trained in a Spartan school, under, if we may so term it, a law of ethics which allows no man to turn his back upon danger. Whatever may be the peril, they are expected to go wherever their services are needed. They make no great ado about it; nor are their names often mentioned in the official reports; and still less often are they breveted for soldier-like conduct; yet they go, wherever they are called, quietly about their business, alone or in small detachments, in rain and in snow, by night and by day, on the march and on the bivouac, through watchfulness, and fasting, and fatigue, into the midst of malaria, contagion, and battle.

We challenge any man to-day to point us to an educated physician who has fled at the approach of pestilence, or who has hesitated to enter the trenches, or to face the batteries, if required to do so, in the performance of his legitimate duties. Even when the strict letter of his instructions forbade his exposure, the medical officer has seldom been backward to accept any duty which the exigency seemed to impose upon him.

In this way fell, at the terrible slaughter of El Molino-del-Rey, on the 8th of September, 1847, my own beloved pupil, Geo. Wm. Roberts, Assistant-Surgeon in the Fifth Regiment U. S. Infantry. Having received from the Staff Surgeon no authority to retire, (an omission which, in the confusion of the onset, may be readily explained), he continued at the head of his regiment until nearly all the officers had fallen, when he begged permission from Capt. Hamilton, who was at that moment disabled by a wound in the shoulder, to be allowed to lead the broken column. Permission was granted, there being no officer of the line left to succeed in the command; and in a moment after Roberts received a wound through his head which proved fatal; but his death did not occur until several days after the battle, and when he had received at the hands of his comrades all the attention and care which their affection for him could suggest.

It is with pleasure that we refer those who deny the medical officers such courtesies as a law of Congress has instructed the officer of the line to observe, to the views of one who is in no way connected with the medical profession, and whose opinions, from the position of isolation and independence which he occupies, will be entitled to respect. Lord Dalhousie, in a memoir upon the Medical Service, appended to the Report of the Parliamentary Committee, remarks as follows:

"There are several particulars in which the Medical Service, as a body, lies under great disadvantages, and which they regard, justly in my opinion, as grievances that ought to be removed. I refer to the inequality which now prevails between the position of a medical officer and that of his brother officers, in respect of pension, honor, and rank. I respectfully submit that such inequalities are founded on no sound grounds of justice, expediency, or policy;



no valid reason ever has been, or can be, alleged for maintaining them. Their effect is to depress the spirit of the medical officers, to depreciate a profession and class of service which ought to be held in the utmost respect, and supported equally from motives of prudence and gratitude.

"But the most galling, the most unmeaning, and purposeless regulations by which a sense of inferiority is imposed upon medical officers, is by the refusal to them of *substantive rank*. The surgeon and assistant-surgeon rank invariably with captain and lieutenant, but the rank is only *nominal*; whenever medical officers and others are brought together on public duty, the former have no rank at all, and the oldest surgeon on the list must, in such case, range himself below the youngest ensign last posted to a corps.

"It is impossible to conceive how such a system as this can have been maintained so long on the strength of no better argument than that it has been, and therefore ought to be! It is impossible to imagine what serious justification can be offered for a system which, in respect to external position, postpones service to inexperience, cunning to ignorance, age to youth; a system which gives a subaltern who is hardly free from his drill, precedence over his elder, who perhaps has served through every campaign for thirty years; a system which treats a member of a learned profession, a man of ability, skill, and experience, as inferior in position to a cornet of cavalry, just entering on his study of the pass and audit regulations: a system, in fine, which thrusts down grey-headed veterans below beardless boys."

The only remaining point to which we wish to call your attention is the amount of *authority* vested in the medical officers of the army, with a view to a consideration of the question whether it is sufficient for the purposes intended; and we may say at once, that it is the almost unanimous opinion of the army surgeons that it is not sufficient unless the medical officers have complete control of the medical department; in the same manner and to the same extent, that the officers of the corps of engineers control their department. In this opinion the writer fully concurs.

The objections to the conference of authority upon medical officers are the same which have been urged against medical rank; and in addition to these it has been claimed, that to divide or distribute authority, is to destroy the unity and power of the army, and that it is essentially destructive of all military discipline. The first of these objections has already been sufficiently considered, and the second is very well disposed of by Dr. Tripler in a few words: "The dogma of the necessary alternate of commanding or being commanded, that has been the fruitful source of so many mischiefs, and is at the root of the difficulty of securing the efficient co-operation of the different professions that are now combined in the organization of the army, has had its practical refutation demonstrated in our service by the experience of almost half a century. The law forbids the exercise of command, out of their corps, to the officers of the engineers. Still they are not subject



to the orders of their juniors in the line. They cannot command, nor are they commanded except by a superior; and what has been the result of this assumed military heresy? Let the world produce their superiors as an efficient and scientific corps! Their independence of all outside interference, and their being exclusively intrusted with the means of performing their own duties, have made them what they are, and the country has reaped the advantages of its wise legislation in regard to them. This is the only corps in the army that has any analogy with the medical, as regards scientific acquirements, speciality of function, peculiarity of administration, and claims to independence of action, because it is not at all understood or comprehended by any other department.”\*

We conclude then, that to the medical officers ought to be intrusted the complete control of the medical department, because upon the preservation of the health of the troops depends in a great measure the success of every expedition; because no others than medical men are, by their education and habits, qualified to perform this duty; because no one else is competent to decide upon the proper location of a hospital, its construction, ventilation, or general arrangement; no one else can determine what is necessary for the sick, in the way of diet, clothing, medicines, etc.; no one else knows when rooms are overcrowded, and are in danger of becoming pestilential, or when patients can be removed with safety. In short, because officers of the executive department, from the entirely distinct nature of their pursuits, whatever they may believe to the contrary, do actually know as little of hygiene, medicine, and surgery, as they do of engineering. Because, moreover, medical men are supposed to be qualified, they are appointed for this express purpose, and because, without authority, they are unable to carry out their own views, and it is impossible, therefore, that the public service can receive the full benefit of their ability.

Fortunately recent events in the Crimea and in Turkey have furnished an opportunity to test, in some degree, the relative value of the two systems as applied directly to the medical department.

The French army sanitary system is exceedingly complicated, and its details are made out in the most elaborate manner, nothing is left to conjecture, every duty is defined so explicitly that there can be no chance of error. As to authority to deviate from these rules, they have none. Each hospital is placed under the charge of an officer of the line, called the Military Intendant, whose only qualification for this position is that he possesses military rank, by virtue of which he is entitled to command. The medical officer merely prescribes and makes surgical operations, dresses wounds, and *suggests*. He cannot command the most subordinate attaché of the wards. He cannot, in theory, order a nurse to dispense a medicine, or a sick soldier to leave his bed, except through the Military Intendant.

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\* American Medical Gazette. Introductory Lecture on Surgery. By Charles S. Tripler, M.D., U. S. A. (1848.)

In the British service, the system is much less elaborate, and there is much less precision in the rules which govern its details. So that, to the casual observer, it seems imperfect, and contrasts unfavorably with the French system; but the British surgeons are permitted to exercise a certain amount of authority over their own department, such as is not allowed to the French surgeons.

In the allied expedition against Russia, of 1856, the British medical officers had authority to command over the hospital orderlies, the nurses, and the apothecaries. He was permitted to regulate the general hospital police, to give orders, and to enforce their execution in relation to the hygiene, medication, and subsistence of the sick.

The result, fairly traceable to these insignificant, but as every medical man knows them to be, important practical differences, was that the English army closed their campaign with a loss, by death or invaliding, of less than one-third of their troops, while the French had lost more than one-half of their whole number.

It must be understood also, that by far the largest proportion of those who died or were invalided in these campaigns were thus lost to the service by epidemics, such as the cholera, dysentery, etc., which were in a great measure capable of prevention. The proportion lost by wounds received in battle was very small, probably not more than one in ten or fifteen.

Whether, as more than one writer has intimated, the French were compelled to make a hasty peace, because their forces were broken and disheartened by the progress of disease amongst them, we are not prepared to say; but however this may be, it is certainly capable of mathematical demonstration that without large additional conscriptions, and we may add, some change in the condition of the sanitary police of the army, the emperor would have been compelled soon to close the war on the part of France by a disgraceful retreat.

M. Baudens does not hesitate to declare the imperfection of the French regulations as contrasted with those of their English ally, and to intimate the real source of their own misfortunes. "The English hospitals," he remarks, "were remarkable for cleanliness. We have seen that this quality did not exist in ours. The difference is partly due to the higher and more independent military position which the English surgeon holds, and which entitles and enables him to exercise greater authority in hygienic measures. His ordinary sick-diet table is more ample and varied than the French, and the surgeon can order what extras he thinks proper for the sick. Indeed, the English camp was abundantly supplied with stores and comforts of all kinds; to which circumstance is to be ascribed its preservation from the scurvy and typhus in 1856."

To the crowding of sick tents and huts into a confined area, in opposition to the protests of the army surgeons, both in the Crimea and at Constantinople, this writer ascribes the persistence of the cholera, and the prevalence and ravages of typhus and hospital gangrene. The army intendants and the medical officers enter-



tained wholly different opinions as to what constituted overcrowding. The intendency functionaries "adhered to the strict letter of the military rule: so long as the patient had the regulation allowance of cubic feet, overcrowding was an impossibility; while physicians saw it to exist from the moment when disease was aggravated, and its fatality augmented by reason of too many sick being congregated within a given space."

What can be more conclusive? Admitting that some minor embarrassments might arise from an occasional collision of authority between co-ordinate branches; still is it not too plain to allow of a doubt, that to subordinate a department, with which are intrusted such vast interests to a department wholly unacquainted with its duties, is to put the whole army in extreme peril, and to place the results of the expedition almost upon the hazards of a die.

The position which we assume, however, is that, so far as experience goes, there is no evidence that by rendering certain departments of the army co-ordinate the danger of collision is increased. On the contrary, we believe that by this method alone can collision be effectually prevented. They will have less contact, either personal, ceremonial, or official—consequently, we believe, there will be less jarring, less jealousy, less crimination, and more faithful service.

We trust, for the sake of humanity, that the War Department at Washington will listen to the respectful suggestions which are constantly being made by experienced army surgeons upon this subject; and that these suggestions will receive from them early and earnest consideration.

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### Doctors.

"*Dulce est desipere in loco*," says Horace. Whether a little chat about Doctors may or may not be strictly in place in a leading article, it is quite certain that a good book is a very pleasant companion in a railway-carriage. So at least we found Mr. Jeaffreson's "Book about Doctors," last week, when an appreciative patient called us into the Midland counties; and so may any of our readers who make a trial of it, either on the rail, or in a snug brougham, or in an easy-chair before the bright fire, after the day's work is over, while the smiling wife supplies the fragrant tea and joins in the mirth caused by some of the good stories about Doctors, of which the book is full. *Experto crede*, or, still better—not to forsake the Latin Grammar in our quotations—*ex uno disce omnes*—let our readers judge of the book from a few specimens. We may pass over the days of physicians' canes and barbers' poles, when—

"Each son of Sol, to make him look more big,  
Had on a large, grave, decent, three-tail'd wig;"

and silk-coated, lace-ruffled physicians went about on horseback, "sitting sideways on foot-cloths, like women," the hands carried



in a large fur muff, to keep them "warm, and delicate of touch," and so to be able to discriminate to a nicety the qualities of the pulse. But we may glance at the "little coach and two horses" of the Restoration, and the chariot and four, or sometimes six horses, thought indispensable in the reign of Queen Anne; then figure to ourselves Jenner as a type of the booted and spurred country Doctor of the last century, galloping about Gloucestershire, "dressed in a blue coat and yellow buttons, buckskins, well-polished jockey-boots, with handsome silver spurs," wearing a broad-brimmed hat, and carrying a smart whip,—altogether very unlike the bronze personage now sitting in Trafalgar Square.

We pass all this, and come down to our own time, when the "little coach" is revived in the form of the "natty brougham," and the early struggles, and screwing, and scraping, by which it is maintained, are recounted. We have heard of some such things before, but the following are new to us:—

"Who has not heard of the dashing Doctor who taught singing under the mustachioed and bearded guise of an Italian Count, at a young ladies' school at Clapham, in order that he might make his daily West-end calls, between three P. M. and six P. M., in a well built brougham, drawn by a fiery steed from a livery stable? There was one noted case of a young physician, who provided himself with the means of figuring in a brougham during the May-fair morning, by occupying the box, and condescending to the gait and duties of a flyman, during the hours of darkness. It was the same carriage at both periods of the four-and-twenty hours. He lolled *in* it by daylight, and sat *on* it by gaslight. The poor fellow's secret was discovered by his forgetting himself on one occasion, and jumping *in* when he ought to have jumped *on*, and jumping *on* when he ought to have jumped *in*."

Let us pass by Phreas, Linacre, Kaye or Caius, and Mayerne, and look on Aubrey's picture of Harvey "of the lowest stature, round-faced, olivaster (like wainscot) complexion; little eye—round, very black, full of spirit; his hair black as a raven, but quite white twenty years before he died;" and then think of the great discoverer riding on "horseback with a foot-cloath to visit his patients, his man following on foot, as the fashion then was," and as "very cholerique," in his younger days wearing "a dagger (as the fashion then was); but this Doctor would be apt to draw out his dagger upon every slight occasion." This was too characteristic to pass over, as we do the men of the Elizabethan era—Bulleyn, a relation of the unfortunate Anne Boleyn—Butts—their successors, Sir Thomas Browne, his son, grandson, and Sir Kenelm Digby,—and come to the three men whose lives bridge over the uncertain period between old Empiricism and modern Science,—Sydenham, Hans Sloane, and Heberden. But all these, the Royal Society in their time, and the great quarrel between the Physicians and Apothecaries, we have also to pass over for stories more attractive. Radcliffe and his rivals afford us some notes about the very interesting subject of FEES. Taking more than twenty

guineas a day at the end of his first year in town; getting 500 guineas for curing Lord Portland of a diarrhoea; 1000 guineas from Queen Mary for attending the infant Duke of Gloucester in an attack of convulsions, and 1600 guineas for going to see Lord Albemarle at Namur; and, calculating the difference in the value of money then and now, the banker's book must have been a very pleasant one at the year's end; and one can understand how Oxford has profited by the Radcliffe Library, Infirmary, Observatory, and Traveling Fellowships. As to the eighteenth century Physicians—Friend, Gibbons, Fordyce, Beauford, and Barrowby, who thought “temperance a vice that hadn't even the recommendation of a transient pleasure,” and the stories of their gluttony and drunkenness—we should read of them with absolute disgust did they not serve to compare the habits of the present day with theirs, with more satisfaction than the fees the topers received, with those of our own day. The “*cacoethes donandi*” is not a besetting vice of this age. Patients now manifest enfeebled powers in other ways, although some high-minded men are obliged to resist, like Mr. Jeaffreson's friend, who said, “I wonder at my moderation.” Those who wish to be paid fairly are often obliged to act upon the motto, “*Accipe dum dolet*”—“take your fee while your patient is in pain.” As curiosities in the fee way, we may record that of Henry Atkins, who received £6000 from James the First, for going to Scotland to attend Charles the First, when an infant; Louis the Fourteenth, who gave his Physician and Surgeon 75,000 crowns each for one operation; Dr. Dimsdale, who was once Member for Hertford, who got £12,000, and £500 a year for life, for going to Russia to inoculate Catherine, besides the rank of Baron of the Empire. The Austrian Emperor Joseph made his Physician, Quarin, a Baron, and gave him a pension of £2000 a year. Hear Mr. Jeaffreson:

“Cynics have been found in plenty to rail at Physicians for loving their fees; and one might justly retort on the cynics that they love *nothing but* their fees. Who doesn't love the sweet money earned by his labor—be it labor of hand or brain, or both? One thing is sure—that Doctors are underpaid. The most successful of them in our own time get far less than their predecessors of any reign, from Harry the Eighth downwards. And for honors, though the present age has seen an author raised to the peerage, no precedent has as yet been established for ennobling eminent Physicians and Surgeons.”

This question of fees reminds us of the sums some Quacks, male and female, have extracted from their victims or dupes. Mesmer received in Paris in one year £16,000; Mrs. Stephens and her £5000 grant are well known. Her contemporary, Mrs. Mapp, or “Crazy Sally,” are less so, and Mr. Jeaffreson's very curious accounts of her, and of Quack Oculists, the Taylors, of Graham and his “Temple of Health,” are very curious. Only thirty years ago, St. John Long “showed me his pass-book with his bankers, Sir Claude Scott & Co., displaying a series of credits from July,



1829, to July, 1830, or a single year's operations, to the extent of £13,400."

Any Book about Doctors would of course be incomplete without something about Quacks; so Mr. Jeaffreson tells us of Saffold, the great Quack of Charles the Second's time; of Sir William Reade, Queen Anne's Quack Oculist; and of her other "sworn Oculist," Grant, the Anabaptist tinker.

"Her Majesty, sure, was in a surprise,  
Or else was very short-sighted;  
When a tinker was sworn to look after her eyes,  
And the mountebank, Reade, was knighted."

Then we come to the Quacks of the last century, and the first Hydropath, the Rev. John Hancock, D. D., Rector of St. Margaret's, Lothbury, the Loutherbours, Myersbach, Katerfelto, and a host of other Quacks. But we must leave these gentry, and return to the Doctors.

The connections of the Medical Profession with the aristocracy are illustrated by the "unpleasant old scamp" Monsey, the great-grandfather of our ex-Chancellor, Lord Cranworth. Sir Hans Sloane's daughter became Lady Cadogan by marriage; the Earl of Westmoreland married one of Dr. Saunders' daughters; Lord Combermere married the daughter of Dr. Gibbings, of Cork. As instances of sons of medical men who have risen to the Peerage, we have Lord Sidmouth, son of Dr. Addington, of Reading; Lord Denman, son of Dr. Denman, the Accoucheur; and the present Lord Kingsdown, who is grandson of the late Dr. Pemberton, of Warrington. No Physician who has not left his original profession for politics or the Law Courts has yet reached the House of Lords. Sylvester Douglas, the Apothecary, obtained an Irish Peerage and the title of Lord Glenbervie, by long party service in the House of Commons; and Henry Bickersteth—the late Lord Langdale—practiced medicine until he was twenty-eight years old, and was not called to the bar until he was thirty-one. Twenty-five years afterwards he was created a Peer. He married a daughter of Lord Oxford, to whom he had formerly been traveling medical attendant. Talking of marriages, there was Sir Lucas Pepys, who married the Countess de Rothes; Sir Henry Halford, whose wife was a daughter of the eleventh Lord St. John of Belsoe; Sir John Hill, who married a daughter of Lord Ranelagh; and Sir Hugh Smithson, who "won the greatest prize ever made by an Æsculapius in the marriage market." He "won the hand of Percy's proud heiress, and was created Duke of Northumberland." He practiced as an Apothecary in Hatton-garden, but married the heiress in 1740: he was created Duke of Northumberland in 1766.

Here this gossip must end. Those who wish for more of the same sort, and some much better, must turn to the book which Mr. Jeaffreson has provided, with the assistance of Dr. Munk, the learned Librarian of the College of Physicians, and of Dr. Diamond, who, as we well know, and Mr. Jeaffreson says, "unites the graces



of a scholarly mind, an enthusiasm for art, and the fascinations of a generous nature." A generous appreciation of generosity is shown in the following passage, with which we conclude :

"Of the generosity of Physicians one *need* say nothing, for there are few who have not experienced or witnessed it; and one *had better* say nothing, as no words could do justice to such a subject. This writer can speak of at least one poor scholar, to whose sick-bed Physicians have come from distant quarters of the town, day after day, never taking a coin for their precious services, and always, in their graceful benevolence, seeming to find positive enjoyment in their unpaid labor."—*Med. Times and Gazette*.

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### *Absinthe Drinking in France.*

Fashion holds despotic sway in every phase of life. The drinking customs of nations yield to it. With us, hard cider has given way to lager beer, and in France, wine has been replaced by absinthe. A correspondent of a New York paper, writing from Paris, says:

The frightful effects caused by absinthe drinking in France are just now exciting a good deal of interest in the medical fraternity. Absinthe is drunk in immense quantities by all classes of society in Paris. In front of the magnificent cafés in the boulevards, between three and five o'clock in the afternoon, hundreds of gentlemen may be seen sitting, mixing and sipping this villainous green liquor, which is taken by way of an appetizer before dinner. Workmen drink it in the low, corner establishments of the "marchands de vin." In different portions of the city are establishments which are crowded from morning till night, in which the sale of absinthe is made a "specialty," and where nothing else is sold. Ladies of high families are reported to have yielded to its fascination. It has been exported, and is used to an enormous extent in all the French colonies, and statistics of exportation show that immense quantities of it are sent to America; and it may not, therefore, be uninteresting to learn something about the composition and effects of this seductive liquor, which, from the actual irresistible power which it wields over its victims, as well from the similarity of its effects and the general and increasing popularity it has acquired, may not improperly be called the "opium of the west."

*What it is made of.*—In a paper recently read before the Academy of Medicine of Paris, M. Motet, a physician, who has evidently devoted a good deal of attention to this subject, says that the habitual use of absinthe causes a series of pathological manifestations extremely grave, and differing essentially from the effects produced by other alcoholic drinks. For ten years past, enormous quantities of it have been drunk in Paris. The murderous beverage has been taken to Algeria, where it has been greatly abused by the colonists and the army, and where the heat of the climate tends

greatly to heighten its deleterious effects. The effect of large doses, or of the habitual use of this liquor is now well known, but the drinker returns to it in obedience to an apparently irresistible fascination, knowing that it is destroying him.

"Absinthe," which is a French word, meaning, in English, "wormwood," is a liquor made by the distillation of a number of plants with alcohol. These are the tops of the wormwood, flag-root, anniseed, angelica-root, leaves of dittany, (*origanum dictamnus*,) and sweet margoram. All these are placed in alcohol of very high proof, where they are allowed to remain eight days, when the mixture is distilled, and half an ounce of the essential oil of anise is then added to each three gallons of the liquor. The first care after the distillation is to see whether the liquor has a good color, and whether it will "whiten" well, and, if it is lacking in these essentials, it is brought up to the proper point with indigo, tincture of curcuma, hyssop, nettles, and sulphate of copper. Absinthe, however, requires no adulteration to make it a positive poison. Composed of plants of highly-exciting qualities, mixed with highly-concentrated alcohol, it acts directly upon the nervous system, having a much more positive effect than other alcoholic liquors. In the process of distillation, the plants furnish several volatile oils, which are among the most violent poisons, and, beside these, it must be remembered that a large quantity of the essential oil of anise is added. Probably few persons, in mixing their absinthe, have ever stopped to consider the cause of the "whitening," or ever thought that the better the liquor "mixes" the more powerfully poisonous it is. The white deposit, which, in precipitating, renders the liquid turbid, comes from the essential oil of anise, wormwood, angelica, etc., which are held in solution of alcohol, but which are not soluble in water, or alcohol weakened with it.

*Its Effects.*—So much for the composition of this vile compound. Now for its effects, which, in a sentence, are summed up by Dr. Motet as a general poisoning of the system, which terminates in insanity and death. The following are given as the primary effects of the habitual use of absinthe: The muscular system is brought into a state of uncertainty and indecision, which is easy to recognize by contractions and trembling of the forearm, of the hand and inferior members. Strange sensations are observed by the unfortunate victim—such as tingling and pricking of the skin, heaviness of the limbs, and numbness—the hand seizing and as suddenly letting go anything within its reach. In standing, the patients require something to lean against, not being solid upon their legs; the knees tremble and bend—a general air of hebetude marks the features; the lips, the tongue, and the muscles of the face tremble; the eye is sad and sorrowful; the skin becomes yellowish; dyspepsia and wasting away ensue; the mucous membrane assume a violet hue; the hair falls off, and the whole frame-work of the man falls into a premature old age and dilapidation.

Such are the bodily signs of absinthe poison—and the mental troubles progress concurrently with the disorders of the muscular

system. By reason of the progress of the disease of the brain, the sleep of the patient is disturbed; he has terrible dreams, and nightmares, and sudden wakings. He has hallucinations, illusions, blinding of the eyes, vertigos, hypochondria, a very marked embarrassment and dwelling upon words in speaking, and a constantly-decreasing strength of intellect. Such is the sad cortege of symptoms presented by the unfortunate victims of the terrible absinthe poison.

Nothing, says Dr. Motet, can stop the progress of the disease of the brain. Sometimes the symptoms will be more favorable, for a greater or less time, but the respite must not be taken as a sign of approaching cure, and a little sooner or a little later death steps in the midst of epileptic attacks, at a time when there is scarcely any human intelligence remaining—when the animal alone exists, and in a state of degradation of which no description can give an accurate idea.

*Its Prohibition in the Army and Navy.*—The French government has prohibited the use of absinthe in the army and navy—even to the officers—and it is said that an attempt is to be made to prevent its importation into the colonies. Deaths and insanity, the result of its habitual use, are, I am informed by a medical friend of mine, very common in Paris; and that on the tombstones of several of the prominent men in the literary world, whose lights have gone out during the past ten years, might with truth be written, “died of absinthe.” And yet, with all these terrible facts before them, the use of this villainous mixture is daily increasing, and it is by no means improbable that the government, which interferes in matters of much less importance, will find it necessary before long to adopt a “Maine liquor law,” prohibiting the sale of the poisonous compound.

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### *The Doctor.*

He is a Doctor, and a Doctor only,  
 Who, walking in the path of science lonely,  
 Lays up a store of that peculiar teaching  
 Which stands his friend, much more than all the preaching  
 Of learned *savans*, who have acquir'd their lore,  
 Purloin'd from the same source, that years before  
 Sprang from the brain of honest humble labor,  
 Now sold as *new* by parasites for favor.  
 Worthy the Doctor who, with torch in hand,  
 Gathers the atoms, countless as the sand,  
 That makes a *fact*, and on the cairn of Science  
 Leaves it for future use, with self-reliance.  
 Patient disciple, of thy noble art,  
 Taught by the unstain'd love that swells thy heart!

[*Med. Times and Gazette.*



*Mormonism, in its Physical, Moral and Mental Aspects.*

Isolated in the narrow valleys of Utah, and practicing the rites of a religion grossly material, of which polygamy is the main element and cohesive force, the Mormon people have arrived at a physical and mental condition, in a few years of growth, such as densely populated communities in the older parts of the world, hereditary victims of all the vices of civilization, have been ages in reaching. This condition is shown by the preponderance of female births, by the mortality of infantine life, by the large proportion of the albuminous and gelatinous types of constitution, and by the striking uniformity in facial expression and in physical conformation of the younger portion of the community. The "peculiar institution" is practically upheld by the older men, the elders, bishops, apostles, and prophets; and so eager is the search for young virgins, that notwithstanding the preponderance of the female population, a large percentage of the younger men remain unmarried. To sustain the system, girls are "sealed" at the earliest manifestation of puberty, and I am credibly informed that means are not unfrequently made use of to hasten the period. The activity of the reproductive function, as a rule, is not diminished by polygamy; on the contrary, the women are remarkable for fecundity; but in the harems the proportion of children arriving at maturity is much less than in the rural districts of our country. An illustration of this fact is afforded by the results in that chief of polygamists, Brigham Young's case. He has, at least forty wives. A large number of children have been born to him, a majority of whom died in infancy, leaving twenty-four, according to the most reliable accounts. These forty women in monogamous society, married, would have probably one hundred and sixty children, two-thirds of whom, under hygienic circumstances equally favorable, would have been reared. In Brigham Young and his wives, we have presented the most favorable conditions for successful polygamy possible in Mormon society, yet, in this instance, the violation of a natural law has been speedily evinced. One of the most deplorable effects of polygamy is shown in the general weakness of the boys and young men, the progeny of the "peculiar institution." The most observant Mormons cannot hide from themselves the evidence of these sad effects. One of their saints, Heber C. Kimball, in recent sermons, has adverted to this sexual debility, but, with a singular blindness, attributed it to a vicious style of dressing. The sexual desires are stimulated to an unnatural degree at a very early age, and as female virtue is easy, opportunities are not wanting for their gratification.

It is a curious fact, that Mormonism makes its impress upon the countenance. Whether owing to the practice of a purely sensual and material religion, to the premature development of the passions, or to isolation, there is, nevertheless, an expression of countenance and a style of feature, which may be styled the Mormon

expression and style; an expression compounded of sensuality, cunning, suspicion, and a smirking self-conceit. The yellow, sunken, cadaverous visage; the greenish-colored eyes; the thick, protuberant lips; the low forehead; the light, yellowish hair; and the lank, angular person, constitute an appearance so characteristic of the new race, the production of polygamy, as to distinguish them at a glance. The older men and women present all the physical peculiarities of the nationalities to which they belong; but these peculiarities are not propagated and continued in the race; they are lost in the prevailing Mormon type.

"If Mormonism received no additions from outside sources, these influences continuing, it is not difficult to foresee that it would eventually die out. The increase of population, independently of large annual accessions from abroad, has not been co-equal with the increase in other portions of our country. The results of polygamy here are not to be compared, without some limitations, to the results of the same institution elsewhere: its decadence must follow more speedily. In eastern life, where it has been a recognized domestic institution for ages, women are prepared for its continuance, and do not feel degraded by their association with it. The women of this Territory, how fanatical and ignorant soever, recognize their wide departure from the normal standard in all Christian countries; and, from the degradation of the mother, follows that of the child, and physical degeneracy is not a remote consequence of moral depravity.

"Mormonism, considered in a relation purely sanitary, presents some interesting features. The Mormon theology contemplates the cure of disease by miraculous interposition; hence the disciples of the healing art are not held in much estimation. The church authorities are exceedingly jealous at an attempt to cure by ordinary therapeutics, and denounce from the pulpit any invasion of their special province. Though they claim for the 'laying on of hands' (*cheirapsia*) wonderful efficacy, the number of deformities, the result of mal-practice, to be seen in any of the populous towns, rather indicates a necessity for the use of carnal means. The art of surgery is at a low ebb. Epidemic erysipelas of a virulent form is reported to prevail in this Territory, but, thus far, no cases of the disease have fallen under the observation of the medical officers serving with this army. I have reason to believe that 'erysipelas' is a conventional term applied to various dissimilar affections, as rheumatism, erythema, anthrax," &c.—*Boston Med. Journal*.

## Bibliographical Notices and Reviews.

*An Elementary Treatise on Human Anatomy.* By JOSEPH LEIDY, M.D., Professor of Anatomy in the University of Pennsylvania, etc., etc. With three hundred and ninety-two Illustrations. Philadelphia: J. B. Lippincott & Co. 1861.

This book is a home production—Prof. J. Leidy, its author, the present teacher of Anatomy in the oldest and formerly the most renowned medical school of this country. Besides, Prof. L. has impressed himself upon the age as an industrious, learned naturalist. His name is connected with the transactions of most of the societies of natural history in our country, and with several abroad. Never having engaged in the practice of medicine, Prof. L. has occupied his time as a lecturer and *physicist*.

Galen's Anatomy, founded on the dissection of monkeys merely, because in his day dissections of the human body were prohibited by the severest penalties, lasted for a period of fourteen hundred years, and was then superseded, after the strongest opposition on the part of such men as Sylvius, Eustachius, etc., by a system based on dissections, the most careful and complete, of the human body. How differently things have worked since the time of the illustrious Roman! It is but little more now than three centuries since Vesalius gave to the world his great work, (*"De Humani Corporis Fabrica, libri vij., Bas. 1543,"*) and yet a great number of treatises, some of them very elaborate, have made their appearance in the time. Fallopius followed Vesalius, in 1565, by the publication of his *"Anatomical Observations,"* and from Fallopius to the present day no period of any great length has elapsed without being marked by the appearance of a new work on Anatomy. During the present century, works, native and foreign, have every now and then made their appearance. The names of Cloquet, Meckel, Bell, Wistar, Fyfe, Cruveilhier, Horner, Quain, Morton, are familiar to the older physicians of the present generation; while those just embarking in their professional career recall vividly their late communings at the altar with Quain and Sharpey, Harrison, Erasmus, Wilson, Richardson, Handy.



In former times books were written to give an account of discoveries. It was eminently proper for Erasistrates and Herophiles to write books on Anatomy, for, having been the first to enjoy the privilege of dissection, they had something to write about. It was also proper that such men as Galen, Vesalius, Fallopius, Eustachius, should write books, for they also knew something more than common people. The treatises they have produced bear the impress of originality. They wrote simply to give publicity to their discoveries.

To persons who understand things, it does not appear strange, that those engaged in original research often have the bump of order but slightly developed. John Hunter had on many occasions no arrangement at all in his lectures. His matter, although new, and very interesting from the care he bestowed in collecting it, was presented in a manner that rendered it very difficult to be understood. As a consequence of such facts, a necessity is created for a class of authors in every science, whose avocation consists simply in setting things in order—in giving to matter that arrangement that economizes, to the greatest extent, the efforts of the reader or pupil. In this capacity Bell, Cruveilhier, Wistar, Horner, Quain, Wilson, have rendered the profession good service. They discovered but very little, several of them nothing at all; but have made themselves useful by paving the road to the science. In this class, too, does the author before us—the Philadelphia Professor of Anatomy—very naturally fall. His book must “sink or swim,” not on its claims to original research, to discovery, to the bringing forward of things that are new; but simply on its claims to *superior method*. We are told by the author, in the preface, that the work was got up at the instance of students, and mostly for their benefit. He and they, no doubt, were of the opinion that an improvement might be made in the manner of presenting the subject; and hence the book.

The scope of this work is not exactly what might have been expected from Prof. Leidy. Of mere manuals or hand-books on Anatomy, there is certainly no dearth. Wilson, Harrison, Richardson, not to mention others of less pretension, have supplied us well with works of this character. An elaborate, systematic treatise from an American author, or even a Philadelphia professor, a treatise indeed scanning the whole subject a little closer than has yet been done, and improving a little on previous arrangements,

would, without doubt, have been well received. Should not Prof. Leidy have produced such a work? His predecessors, Wistar and Horner, contented themselves with nothing short of elaborate treatises; and why should not the old University maintain her prestige?

The *Introduction* is taken up with some very general remarks (too general to be of much service) on *Mineral* and *Organized* bodies. In this chapter, indeed, we have *multum in parvo*. Something is here said of what the Greeks called "*genesis*," the origin of matter, also of cosmogony, geology, chemistry, microscopy. The author, in approaching his subject, thought it necessary to begin at the beginning. Anatomy standing related to everything in the universe, and the human being the last of the structures created, of course no small amount of preliminary information becomes necessary in order to its comprehension.

In the introduction, the author has also furnished a kind of bird's-eye view of Histology. We recognize here some very respectable figuring on cell structure, and some very clever philosophical speculations. We are told, also, that—

"All living bodies proceed from parents whose remotest ancestry cannot now be traced. All of them commence in or start from the condition of a homogeneous liquid. \* \* \* Every organized body originates in a homogeneous liquid, the most complex as well as the most simple; and every one starts into definite existence as a homogeneous granule, invisible except with the aid of the microscope."

This doctrine of *free cell-formation*, set forth in the above extract, is not just now regarded as being tenable. The subject of *cell genesis* occupied the attention of those who made the discovery that cell structure lies at the foundation of all organized matter. By general consent, Schleiden has the credit of bringing forward for the first time this doctrine with reference to vegetables. We find him also setting forth the correct doctrine (*omnis cellula e cellula*) on the development of cells:

"If we have found the growth of the embryo to consist only of the formation of cells *within cells*, we may expect to find the same result also in the process of growth of the whole class."

Schwann, who has the credit of first proposing the cellular doctrine with reference to animal matter, is also the author of the *free cell-development* theory. Finding cells in certain semi-solid sub-

stances, as, for example, the plasma exuded from diseased parts, he concluded, without further ceremony, that such substance served as the source of development. Müller adopted Schwann's views, and so also did Lebert, Rokatansky, Paget, and others. These doctrines were current from 1837 to 1852. About the latter date, Remak attacked the doctrine of free cell-formation with great success. By him really it was shown to be very unphilosophical, and as a consequence it has since been pretty generally abandoned. With Remak, Virchow, Morel, and most of the histologists of Europe now fully concur.

The occurrence of cells in the chyle and lymph, in glandular secretions (seminal cells ova), in the substance of lymphatic glands, follicles of the intestines, spleen, thymus body, etc., has been supposed to favor the idea of independent or spontaneous development. The logic here, however, rises no higher than the *non "causa pro causa"* sophism. For our ignorance of the true method, we simply substitute one that has not a well-observed fact in support of it. We will give our author a little quarter, however, here, for he is not alone. Other of our American authors, with Erasmus Wilson, and even Kolliker, have repeated the same error.

The true doctrine in regard to cell formation being, as Remak has stated it ("*omnis cellula in cellula*"), we were not prepared for any thing else from one so fully alive as is our author to subjects of this class.

The author has attempted to change the nomenclature of anatomy, though he has not carried his work out. He states :

"Much of the difficulty of which we hear complaints, in the acquisition and retention of anatomical knowledge, arises from an excessive and, in some respects, objectionable nomenclature. Not only has the naming of comparatively unimportant parts been carried to an extreme, but in numerous instances, the same parts are designated by a multitude of names which are indiscriminately used by different writers. \* \* \* In some measure to avoid the difficulty to which we refer, the author has adopted the plan of generally using a single name for each part; of the many names employed, to use that which is most expressive of the part; and, when admissible, the name is anglicized."

In the supposition that an important gain would be accomplished by anglicizing anatomical terms, quite a number of writers have shared. Is it certain, however, that such views have any



real foundation in utility? A practice that has lasted for three centuries, or more, to say the least of it, may be presumed to possess some merit. The plan of deriving the names in all the departments of natural history, as well as in anatomy, from the Latin and Greek languages, it is thought, has its advantages. These languages undergo no change and are universal. They are the same now that they were in the days of Herophilus and Hippocrates. Having ceased to be spoken for twenty centuries, they have been of great advantage in transmitting without change the discoveries and opinions of the fathers. We know by these immortal conservators of science, the exact idea, for example, of Aristotle when he used the term "*aorta*." And so as regards the labors of Hippocrates, Fallopius, Sylvius, and Vesalius. We know just what they had in their mind when they gave names to the different parts of the body. Their meaning has become immutable. How different might things have been at the present day, had a living language, such as the English, been drawn upon for nomenclature. Although this language has changed less than some other living languages, many words in it have a very different signification now from what they had two or three centuries since. Take, for example, the term "*conversation*," which now signifies what a person *says*; two centuries ago it signified what a person *did*. It is a short time, comparatively speaking, since the term "*prevent*" denoted *outstrip*; now it is used as equivalent to *hinder*. We might multiply examples of mutation in meaning of words, but to those who have given the subject any attention at all, it is unnecessary.

Another consideration, closely allied to the one just noticed, is, the Latin and Greek languages are used as vehicles of thought throughout all Christendom. Their use is almost universal—current among the learned everywhere. As a consequence, there would seem to be great propriety in employing them for the purpose of giving names to things in natural science; for, by this course, a name applied to a new discovery by an American would impart information that would be understood everywhere alike. The German, Frenchman, the Italian and Spaniard, in seeing a name for the first time, would have in mind the same ideas. Is not this worth something? But those favoring the substitution of English names for Latin and Greek in Anatomy, suppose themselves advancing the interests of the student—making his way

easier. Is this really so? *Would the attention of the student be economised more by the adoption of purely Saxon names for all objects in anatomy?* This is the real question. We see no reason for answering here in the affirmative. Conciseness and terseness, which are indispensable to impressiveness, will certainly not be denied the learned languages.

Our author states that in many instances the names of comparatively unimportant parts have been carried to an extreme. We are aware that we have some very long, and, apparently, to the beginner, hard names in anatomy, such as "*Levator labii superioris alæque nasi*," and "*Flexor longus digitorum pedis profundus perforans*"—names for a couple of muscles—and it is very likely that the author had these or others of the same kind in his mind when he wrote his preface. Is there any rule, it may be inquired, for the length of names? Or is the brevity of a name always an advantage? We suppose no one favors circuitous phrases or meaningless terms. Such distract attention and diminish the impression. There are, however, advantages once in a while in long names. When looked into they will often, indeed, pretty much always, be found to be descriptive. Those, for example, that we have instanced, have nothing really unnecessary or redundant about them. Every word contains an idea. One of them, composed of six words, "*Flexor longus digitorum pedis profundus perforans*," the author has anglicised and reduced to five words, thus—"Long flexor of the toes." In doing this, however, it will be seen that he has expressed but three ideas, whereas the Latin name expresses six. In other words, by the old method, we have six characters expressed by six words; by that of Dr. Leidy, we express three characters by five words—no great improvement, a Dutchman would say.

The attempt to anglicise has not been carried out with reference to any department. A pretty large proportion of the names remain *in statu quo*. This gives rise to any thing else than a scholar-like appearance. One-half of the names in Latin, the rest in English! This would deform a "*prescription*," and it is difficult to conceive that its effect would be less in a work on anatomy.

Nor are we inclined to regard the author very happy in his efforts at changing names. Speaking of the ear, he introduces several innovations. On the wall, between the cavity of the tympanum and labyrinth, we have two openings, called *foramen ovale* and *foramen rotundum*. The former the author calls "*oval window*," the

latter "*round uindow*." The author has indulged in rather far-fetched analogies in applying the term "*uindow*" to these openings. One of them is occupied with one of the small bones of the ear, (the stapes), the other with an opaque membrane; while neither of them have the slightest access to light, and hence can do nothing towards transmitting it. Under this head we might give a number of examples like the above. We will again divide with the author, however, our charity, hoping that when a new edition of his work is called for he will restore the good old names back again to their places.

As a manual on descriptive anatomy, this book will provoke different opinions. For *fullness* of description, it falls behind several that are in use. In the praiseworthy efforts to condense as much as possible, characters important have been left out of the description. The volume, however, contains evidence of a high order of descriptive talent. No one can look through it without being impressed with the Anglo-Saxon force which everywhere pervades it. It is true we might point out here and there an awkward expression, or a trifling expletive; still not a greater proportion of such than is usually found in connection with richness of thought and an unsteretyped style.

If a new edition of the work is called for, we hope the distinguished author will reconsider at least the subject of nomenclature. The innovation he has attempted has already destroyed several works, and there is no reason to expect a different fate, ultimately, for his. We are all now used to the old classical names; they are household words with us, and rather than part with them we would let a new work, that proposed a change, *slide*, although in other respects meritorious.

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*A Practical Treatise on Phthisis Pulmonalis, embracing its Pathology, Causes, Symptoms and Treatment.* By L. M. LAWSON, M.D., Prof. Clinical Medicine in the University of Louisiana, Visiting Physician to New Orleans Charity Hospital, formerly Professor of Theory and Practice of Medicine in Medical College of Ohio, etc., etc. Cincinnati: Rickley, Mallory & Co., 73 West Fourth-st. New York: S. S. & Wm. Wood. 1861.

The disease upon which this volume is written has, in all ages, received a large share of attention. Its etiology, pathology and



therapeutics have been fruitful themes of discussion, of controversy, and hitherto all of our knowledge has been inclined to revolve around a few very general principles. We have not heretofore had sufficient data to make out anything positive as regards cause; knew nothing certainly on pathology, and were inclined to withdraw confidence in the treatment from every thing in the way of drugs, except the few that produced a *sustaining* effect. Such the state of things, there is room for *new* books, and we hail with pleasure the volume before us. It is, also, a home production, and comes from a gentleman who has made the subject of Phthisis a matter of reflection for a number of years. Besides, the work is published in the West, a circumstance that entitles it to additional interest. It is, too, handsomely published.

For a minute, elaborate notice of the work, we have no room at present. We must be content, therefore, with some very general remarks on the characteristic features. These we find to be a very full description of what the author regards as the "Precursory Stage of Phthisis," "Geography of Phthisis," "Origin of Tubercle in the metamorphosis of the tissues," "A more systematic application of remedies to the stages of the disease."

What the author very properly styles "the Geography of Phthisis," will be read with interest. This branch of the subject really comes home to us in rather a practical way. Every practitioner is called upon for opinions as to the climate most suitable for consumptive invalids. We are not very sure, however, that the problem has received a complete solution at the hands of the author. The statistics appear imperfect, or rather they are not sufficiently discriminating.

For some time, and mostly from the military statistics published by Dr. Forrey, the opinion has had currency that consumption is more common in the south than in the north. This opinion was adopted by Dr. Drake in his work on the "*Diseases of the Interior Valley of North America*." Our author, from a different standpoint, arrives at a different conclusion. From the *civil* statistics, as furnished by the *census* of 1850, he infers the reverse—consumption most common in the north. For example, under the head of "General Recapitulation," the author gives the different climatic divisions of territory—*Eastern, Middle, Western and Southern*—and the proportion of deaths from consumption to population, in each one of them. In the Eastern division, or more properly the North-

ern, which embraces Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, situated between N. Lat.  $41^{\circ}$  and  $47^{\circ} 20'$ , the proportion of deaths from consumption is 1 in 328. In the Western division, which embraces Ohio, Indiana, Illinois, Michigan, Wisconsin, Iowa, Kentucky, Tennessee, Missouri, Arkansas, the proportion is 1 in 382. In the Southern division, which embraces Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, the proportion is 1 in 1,287.

Now, it is true, as the author suggests, that these facts indicate a greater frequency of consumption north than south, the deaths being three times greater in the former than in the latter locality. But they also suggest another inference that seems to have received, heretofore, but little attention, viz.: consumption more common at the North than at the West—the mortality being really double in the North what it is in the West.

Such statistics would seem to make it proper to advise consumptive invalids to travel West as well as South in the hope of being benefitted.

But are any of these statistics reliable? The *civil*, furnished by the census of 1850, relate to a *resident* population, which embrace all classes of the community, all ages and sexes; the *military* relate to soldiers, a single migratory class, possessing more than an average amount of vitality. In applying the numerical method to medical researches, it is essential, 1. That the observations, facts, events, be as nearly alike as practicable; 2. That the observations be numerous; 3. That they be scrupulously accurate. In view of such prerequisites for interrogating disease by statistics, the reader will come in the matter before us to his own conclusions. That pulmonary disease has a relation to climate, would seem to be reasonable; but that the subject is yet understood, or that our author has hit the nail on the head, admits, to say the least, of doubt.

From what little is known, it is inferred that the arctic and tropical regions are in a great measure exempt from consumption. If such is the case, the subject of latitude may be excluded from the inquiry, and the attention turned to the investigation of other agencies. North or South, applied to the temperate regions, according to such a theory, would mean nothing. Who, that has observed a little, has escaped the observation that consumption, like insanity.

has a close relation to the state of civilization? Without saying that we have invoked climate, temperature, humidity, altitude, atmospheric impurities, etc., etc., too much or too confidently, we may suggest more attention to the habits of the people. The peoples that are running wild have little or nothing of the disease. This is true of all latitudes in the four quarters of the globe. On the contrary, the peoples that are most highly cultivated, or rather those whose habits are the most artificial, are the greatest sufferers. Here, then, we have the nub of the inquiry—an investigation of habit. In Anglo-American civilization we have every variety of improper habit. It is, however, those habits interfering prominently with the functions of respiration and digestion that we should connect with the cause of consumption. We may name the cause "*perverted nutrition*," or "*perverted destructive assimilation*;" but it is simply bad habits.

We may say, in conclusion of our brief notice, that the profession should feel itself under obligations to Dr. Lawson for the volume before us. It is a fine *resumé* of what is known of phthisis, and should be in the library of every physician.

The volume, too, shows capacity on the part of its publishers, Rickley, Mallory & Co., Cincinnati, to get up medical books in excellent style.



## Editorial and Miscellaneous.

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### *The Times.*

The present distracted state of the country is having its influence on the Medical profession in several ways. The meeting of the American Medical Association that was to have taken place in Chicago, in June next, has been postponed for one year. The meeting of the State Society—if the officers have not already done so—should also be postponed.

The military organization which is now going on in the country North and South, calls for a pretty large number of Medical men to enter the field as army surgeons. The call, as far as our observation extends, has been responded to by a very good class of Medical gentlemen—gentlemen who would act well their part in any emergency.

The selection of surgeons for the army in this State has been placed by the Legislature under the control of a “Board of Examiners” and the Governor of the State. The Board consists of Drs. Hamilton, Columbus; Blackman, Cincinnati; and Whiting, Canton. Several meetings have been had, and the Board have passed upon the number of candidates to meet present requirements. Governor Dennison has also, as we are informed, appointed as Surgeon-General, Dr. Shumard, of Arkansas.

The present state of things has had the effect to call attention to “Military Surgery.” Already lectures are being given, and manuals are prepared. We wish to suggest just here, that while Military Surgery is extremely important, “Military Medicine” is perhaps more so.

M. Meyne, a surgeon of the Belgian Regiment of Artillery, in a recent work on statistics, says that an army of 100,000 men, by the simple fact of having entered on a campaign, leaving out the influences of epidemics and battles, will have 10,000 men in the hospital. After some months, if there have been some engagements, and the number of patients thus increased, one-third of the army will be out of service. The English army, during a period of forty-one months, of a force of 61,500 combatants, lost 21,930

by *disease*, and only 8,889 by war. The losses of the French in the Crimean war were 53,000 by disease and 16,000 by the accidents of war. Of the 115,000 Russian soldiers who invaded Turkey in 1828-9, but from 10,000 to 15,000 repassed the Pruth—the rest succumbing to fever, dysentery and pestilence. While the French army occupied Algeria, a period of fifteen years, one eleventh part of the force was carried off by disease, and over two hundred and sixty-fifth part by the casualties of war.

Such facts suggest the necessity of having in the army gentlemen not only of surgical but of medical experience. Besides being able to amputate and dress wounds, those will be wanted who are competent to appreciate the effects of sudden change of habit, the influence of different physical agents on constitutions not accustomed to them, and the poisons generated by camp life. In other words, we want those who can take a broad view of the physiology of a large army, and that can indicate the means by which its status may be preserved. It's great to cure, but greater to prevent. Ohio is a healthy State. We have, however, in it localities that differ widely as respects salubrity. There are some places in which an army would be likely to enjoy, so far as local causes of disease are concerned, a high standard of health; there are others so very malarial, that an army quartered upon them during the summer or fall months, would be decimated by disease. From what we have understood, two of the camps for the State troops have already been located without due reference to natural healthiness.

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### *Titilopathy.*

[To the Editor of the American Medical Times.]

SIR:—A few years since a mudical practitioner of our city acquired a celebrity for the treatment of a class of diseases peculiar to females. As his system was then unknown to others, patients came from afar, and with them came the golden opinions the doctor sought for, until in an evil hour the charm of secrecy was broken, and the doctor's occupation gone.

As his system was unlike all the other isms and pathies of the day, and being recognized as an *applied* science, it properly has been termed TITILLOPATHY, or the science of manipulation. The

following case will serve briefly to elucidate its practice. To the suffering patient, after feeling the pulse, and receiving answers to the usual questions of the head, stomach, and bowels, the doctor would say—"Your case is a very simple one; you need none of the naseous medicines with which your former doctor has gorged you—nothing but a gentle manipulation of the *clitorium*, and nature will resume her sway." Then placing the patient in a convenient position, with the index finger he dispelled the pain. The reader can anticipate the pernicious habits thus inaugurated by acts under the cloak of medical treatment.

But my purpose is more particularly to call attention to a present medical practice. And I am led to inquire of my brethren, through the medium of your journal, if the custom of prescribing smashes, juleps, and cocktails, under the guise of schnapps and elixirs, does not savor strongly of Titillopathy? Human nature is titillable through the palate and the imagination, as well as the *clitorium*, and I am convinced that to the palatable practice of Titillopathy may oftentimes be traced the morbid and uncontrollable desire for stimulants, with its fatal results, when the primary cause may only be known to the practitioner of this art.

My thoughts have been especially drawn to this subject by an incidental conversation with a neighboring apothecary, who in reply to the usual query, "Any new remedies?" "Oh, yes," said he, "and those that are likely to have a permanent hold upon the people, they are so palatable. The doctors who prescribe them have a rapidly increasing practice, and quite throw the Homœopathists into the shade, whose pellets are pronounced to be tasteless stuff as compared with the delightful elixirs of modern practice. They take wonderfully," said he, "with my customers. One lady received a prescription from her physician for a quantity to be taken in eight days. She returned in four days afterwards to order a pint of it, remarking that she found it to be also invigorating to her children; but she did not believe in the doctor's teaspoonful doses three times a day, for she now took it with decided benefit by the table spoonful, as often as she felt a drooping sensation, and the children positively liked it." At my request the apothecary furnished me with the following formulæ for a few of the most popular new remedies:

To form the basis for either of the elixirs—Take of brandy, sugar, and water, in proportions, to make a pleasant beverage:



then it may be calisayed, peruvianated, tonicated, ferrated, ferruginated, ferro-phosphorated, chalybeated, calciferated, or alkalinated, by quinine, iron, lime, potassa or soda, taking care not to add sufficient of either to impair the pleasant taste of the elixir, otherwise it may not agree with the stomach of the patient.

Now, sirs, so far as the quantity administered of any of these agencies is concerned, is not the practice Titilopathy? It may be argued, and as readily admitted, that patients of a nervous temperament are often relieved by a titillation of their imagination; and without doubt, these elixirs, minus the brandy, are well adapted for that purpose, as in equal quantities they will neither do harm by overdose, nor entail fatal habits upon those who take them.

It is certainly desirable that medicine shall be presented to the sick in the most agreeable and palatable form that is consistent with its true purpose; but when the dose is made entirely subservient to the taste, Allopathy must certainly give way to Homœopathy and Titilopathy.

MEDICUS.

BROOKLYN, April, 1861.

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PERCHLORIDE OF IRON IN DIPHTHERIA.—M. Aubrun, in a communication to the *Academie des Sciences*, states that the greatest success has attended his administration of the perchloride of iron in diphtheria and croup. He gives the doses in rather a vague manner, stating that he adds from 20 to 40 drops of the solution of the perchloride—according to the severity of the disease and the age of the patient—to a glass of water, and causes the patient to take about two teaspoonsful every five minutes during the day, and every quarter of an hour during the night. Immediately after each dose of the perchloride, some cold milk, without sugar, is given. This treatment must be scrupulously followed for some days, without regard to the patient's sleep for the first three days. It is not until after the third day that the false membranes begin to soften and separate. The author considers that from 140 to 350 drops of the solution, representing from  $1\frac{1}{2}$  to  $4\frac{1}{2}$  drachms of the perchloride should be taken during each 24 hours; and he carefully avoids giving any articles of diet likely to decompose it. *Union Med.*, No. 146.

A PATHOGNOMONIC SYMPTOM OF SCARLATINA.—For some years past, Dr. Bouchut has been in the habit of pointing out in his wards a curious sign which assists in the discrimination of scarlatina from measles, erythema, erysipelas, etc. It consists in a vascular phenomenon, proportionate in intensity to the extreme contractability of the capillaries; we refer to the enduring *white stripe* produced at will by drawing the back of the nail over the part of the skin in which the eruption exists. Pressure with the nail, or any other hard substance upon the exanthematous surface, produces a white streak, which lasts one or two minutes, and sometimes more. Figures may thus be traced upon the skin, the lines of which are conspicuous for their whiteness. With a blunt probe or pen-holder, the diagnosis of the disease may be distinctly inscribed on the integument, and after a minute or two the word *scarlatina* disappears, when the uniform tinge of the eruption again invades the written surface.\*

This phenomenon is observable in scarlatina only. The scarlet hue of measles is not uniform, the eruption consisting of mottled patches, with very slight elevations separated by interstices of healthy skin. In measles the procedure we have described would produce an alternately red and white streak, enduring a much shorter time than in scarlatina. In erysipelas, in the redness induced by a mustard poultice, solar erythema, the white line we allude to is not visible; and without attributing to this sign an undue degree of importance, it may be said to supply one more element in the determination of the character of the eruption of scarlatina.

Among the young patients in whom this symptom was noted this year, we observed one in whom scarlatina occasioned a delirium similar to that of meningitis, and who recovered without any other prescription than mixtures with two ounces of syrup of mulberry. In this case, pressure with the finger left a distinct and lasting white line, especially on the second day of the eruption. The instances which place the fact beyond question, may now be numbered by hundreds, and the phenomenon invariably appears when the eruption is complete. It is moreover, not a little singular that when the exanthema has faded, and the skin has resumed its natural rosy hue, white lines may still be traced by friction with

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\* This sign is described by Borsieri, who does not, however, lay so much stress on its pathognomonic value.

the finger, and last longer than on those parts of the skin to which the eruption did not extend.

Dr. Bouchut has sought for the cause of this phenomenon. How is it that in a cutaneous eruption, consequent upon universal capillary congestion, sudden and lasting discoloration can be induced by friction? He considers this to be due to a considerable increase of the contractile power of the capillaries, proportionate to the intensity of the disease, the regularity of the eruption, and the amount of vital power. The capillaries contract, and expel their contents, hence the *white stripe of scarlatina*. This excessive tonic contractility of the blood-vessels is further remarkable inasmuch as it is peculiar to the disease; once brought into play by pressure, the vascular contraction seems to last one or two minutes, a circumstance which does not occur in any other morbid condition.

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AMERICAN WRITERS ON PHARMACY.—In the course of some editorial remarks on American Pharmacy, the *Medical Times and Gazette* speaks as follows of the principal American writers on this subject. It is worthy of notice, by the way, that all these authors are residents of this city, and all are living. Our cotemporary does not seem to understand that the Official Pharmacopœia of the United States is revised *once in ten years*. . It was thoroughly revised last year by a Convention, which met at Washington for the purpose, and the new edition is or should be published by this time:

“American writers on pharmacy are many and eminent; indeed, we believe their literature in this branch of science will bear comparison with that of our own or of any other country. We need only cite the names of Doctors Dunglison, Wood, Bache, and Stillé, as writers on pharmacy, whose works are as highly valued as they are widely known both in England and on the Continent. The most recent authority is the one last mentioned, Stillé. His great work on “*Materia Medica and Therapeutics*,” and published last year in two octavo volumes, of some 1,600 pages, while it embodies the results of the labors of others up to the time of publication, is enriched with a great amount of original observation and research. We would draw attention, by the way, to the very convenient mode in which the *Index* is arranged in this work. There is, first, an “*Index of Remedies* ;” next, an “*Index of Diseases and their*



Remedies;" the former referring to the pages where information about any particular article of *Materia Medica* will be found; the latter enumerating under the head of any disease a string of remedies which may be tried with more or less change of success in its treatment. Such an arrangement of the indices, in our opinion, greatly enhances the practical value of books of this kind. In tedious, obstinate cases of disease, where we have to try one remedy after another, till our stock is pretty nearly exhausted, and we are almost driven to our wits' end, such an index as the second of the two just mentioned is precisely what we want, but what our English Pharmacopœias do not give. The indices are arranged on the same plan in Dunglison's work.—*Phila. Med. and Surg. Reporter*.

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THE BITE OF RABID ANIMALS NOT ALWAYS FOLLOWED BY HYDROPHOBIA.—A fact well worthy of notice is mentioned in the last annual statistics furnished by the General Hospital of Vienna. It would appear that out of 115 persons bitten by animals whose rabid state was clearly made out, only 25 died with symptoms of hydrophobia. As, however, the actual and precise length of the period of incubation in rabies is not known, these figures cannot be completely relied upon; but it is highly useful to note the comparatively small proportion of deaths which occurred after the well-ascertained inoculation with the poison.—*Lancet*.

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R. WAGNER infers, as well from his own researches on the weight of the brain of mentally favored persons, as also from those of older authors, that the brains of intelligent individuals cannot be proved to be heavier than those of mentally less developed people. Wagner divides the brains into two groups, those poor in convolutions and those rich in convolutions, in order to appreciate the relation of the convolutions of the great hemispheres to the intellectual condition of the brains; he acknowledges, however, that this division is by no means a strict one, as the characters of the one group gradually pass over to those of the other. The author found great development of convolutions and great weight of brain often combined, but not always. Slight development of convolutions is more often met with in women than in men, the greatest degree of devel-

opment was found only in men. The brains of some highly distinguished men, as that of Gauss, the mathematician, exhibited, certainly, the greatest degree of development among all brains examined, but, on the other side, the brains of some very intelligent men were among those poor in convolutions.—*Br. and For. Med. Chir. Review.*

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THE PHYSIOLOGY OF SLEEP.—Durham defines sleep, *psychologically*, as a state in which volition, sensation, and consciousness are suspended, but can be readily restored upon the application of some stimulus, and *physiologically*, as the period of the brain's repose, associated with the nutrition and repair of the brain substance. The author thinks that his experiments on dogs prove that pressure of distended veins upon the brain is not the cause of sleep, as has been supposed, but that during sleep the brain is in a comparatively bloodless condition; and that the blood in the encephalic vessels is not only diminished in quantity, but moves with diminished rapidity. The cerebral circulation during walking, when the quantity of blood and the rapidity of its motion are increased, Durham signifies as the circulation of function, that occurring during sleep as the circulation of nutrition, the former being favorable to endosmosis, the latter to exosmosis. The question regarding the proximate cause of sleep or of the temporary suspension of cerebral activity which follows each period of healthy mental exercise, the author is inclined to answer by assuming, from analogical facts, that the accumulation of the products of decomposition of brain tissue, caused by its functional activity, interferes with the continuance of its action.—*Br. and For. Med. Chir. Review.*

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A REMARKABLE SURGICAL CASE.—A Paris correspondent says that at a late meeting of the Academy of Medicine an extraordinary surgical case was related by M. Jobert de Lamballe, as having recently been treated by him at the Hotel Dieu, one of the public hospitals of Paris. During the war in the Crimea, a French soldier, serving in the trenches before Sebastopol, was struck by a Russian ball upon the *os frontis*, making a hole about the size of a franc piece. He fell immediately, and was taken to the hospital, where

he remained for twenty-four hours in a condition of utter insensibility. A few days after, however, he returned to the trenches and finished the campaign, and came back to France at its conclusion. Since then, however, he has frequently found it necessary to go upon the sick list, complaining of pains in the head and vertigo—and there has been an almost continual suppuration around the fracture. Before his entering the Hotel Dieu, M. Jobert states that he suspected the presence of some foreign substance, and that upon sounding for it, he found the ball, and proposed to the patient to extract it, to which he willingly consented, and the ball was taken out, after having remained in his head twenty-nine months. The ball weighed twenty-five grammes, (a little less than an ounce,) and was found resting upon the *dura mater*, surrounded by hard, blackened blood. It was flattened in some places, which gave reason to believe that it had made several *ricochets* before striking the soldier, which, of course, broke the force of it considerably. The operation has been a complete success. The patient is now in excellent general health, and no longer complains of the pains in the head, which have troubled him ever since he received the wound.

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THE examination of a quack doctor before an English court lately caused some amusement. The *Chemist and Druggist* says he stated in his evidence:—"The bottle produced is the one I gave to the deceased. The label upon it represents it to be 'concentrated decoction of red Jamaica sarsaparilla.' I never saw any but one kind of sarsaparilla. As to specifying it as 'red,' I bought the labels ready printed. The bottle does not contain one particle of sarsaparilla. It contains iodide of potassium, but in what proportion I cannot swear, as I did not weigh it. I just make it up, when wanted, by guess. I understand iodide of potassium is made from kelp, but I don't know whether it can be made from anything else or not. When administered it will make the nose run, but it won't make a sore leg run away. I think it was good for ulcers, such as those of the deceased; but I don't know why or wherefore."

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DR. JENNER has been appointed Physician Extraordinary to Queen Victoria, in place of the late Dr. Baly.



TRAUMATIC TETANUS CURED BY TARTARIZED ANTIMONY IN LARGE DOSES. (*Bulletin Général de Thérapeutique*, May 30th, 1860.)—The success which has attended the treatment of chorea by large doses of tartarized antimony (that is to say, by the strongest doses that the patient can bear without vomiting or diarrhoea), has induced Dr. Conway, of Neufchatel in Switzerland, to adopt this plan of treatment in traumatic tetanus; and he has succeeded in curing two patients by the administration of this medicine. The last case was that of a man, sixty-three years of age, who was seized with violent pain in the left hand, and particularly in the middle finger, which was affected with gangrene extending to its metacarpo-phalangeal articulation. In course of time the finger became dried up, and was removed by gentle traction; but very soon afterwards the patient complained of stiffness in the muscles of mastication, and it was remarked that he could not open his mouth. Dr. Conway immediately prescribed tartarized antimony in the dose of half a grain every hour and a half. The medicine caused severe alvine evacuations, but no vomiting until the next morning. The patient had still the same difficulty in opening his mouth, and complained besides of stiffness of the muscles of the nape of the neck. Two days after the attack, the trismus was extremely well marked, and the patient spoke only with difficulty. The tartarized antimony was now given more frequently—namely, half a grain every hour; but still the symptoms were increased in intensity. The patient then experienced a slight amelioration of his complaint, the stiffness of the neck having diminished. On the other hand, the tartarized antimony had produced acute pain in the back of the mouth. Dr. Conway then ordered twenty-four pills, containing sixteen grains of tartarized antimony, one to be taken every hour and a half. The next day after this prescription the patient was still worse; and as the constriction of the jaws did not allow him to swallow the pills any longer, he was ordered to take, every hour and a half, a teaspoonful of a solution of eight grains of tartarized antimony in sixty grammes of distilled water. It was necessary, however, to abandon this latter method of administering the drug, as it caused excessive pain in the back of the mouth, with singing in the ears, and a linctus with chlorate of potash was employed. The next day but one the tetanus still advanced, but the state of the mouth was improved under the use of the chlorate of potash, and

the tartarized antimony was again administered every hour and a half, together with the chlorate of potash. This treatment was continued for seven days, after which time the patient complained of pain in the stomach, and the tartarized antimony was omitted; but the tetanic symptoms diminished from this period, and it was not necessary again to have recourse to the medicine. The case is remarkable from the perseverance which was shown in the use of the tartarized antimony, and from the successful results which ensued from its combination with chlorate of potash, the latter salt appearing to modify the injurious effects of the tartar emetic, and enabling the patient to continue the antimonial treatment much longer than he would have been able to do without such an adjuvant.—*Br. and For. Med.-Chir. Review.*

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A STEP IN THE RIGHT DIRECTION.—The following bill, introduced into the Legislature of Louisiana, by Dr. J. H. Stevens, to which we referred last week, for protection against the evils of quackery, as we learn from the *New Orleans Medical Times*, has become a law. It is rare that legislative action tends so directly towards the promotion of the public good, and we cannot but hope that other States will be led to follow this example:

SECTION 1.—*Be it enacted by the Senate and House of Representatives of the State of Louisiana, in General Assembly convened,* That no person shall be allowed to practice medicine, as a means of livelihood, in any of its departments, in the State of Louisiana, without first making affidavit before a duly qualified justice of the peace, in the parish wherein he resides, of his having received the degree of doctor of medicine from a regularly incorporated medical institution in America or Europe, and designating its name and locality.

SEC. 2.—*Be it further enacted, &c.,* That the justice of the peace, before whom the said affidavit is made, be required to furnish to the person making it, a certificate of the fact, and also to transmit a copy of the affidavit to the parish recorder, who shall record the same in a book to be kept for that purpose; for which services the aforesaid officers shall each be entitled to one dollar.

SEC. 3.—*Be it further enacted, &c.,* That any practitioner failing to comply with the requirement of the first section of this act, shall

not be permitted to collect any fees or charges for services rendered, by legal process, and moreover, shall be liable to a penalty of twenty dollars, for each and every violation thereof; said sum or sums to be collected by indictment or information, as in other cases provided by law.

SEC. 4.—*Be it further enacted, &c.*, That one-half the fines imposed under this act shall be paid to the prosecutor, and the remainder into the parish treasury.

SEC. 5.—*Be it further enacted, &c.*, That the provisions of this act shall not apply to persons who have been practicing medicine for the space of ten years in this State without diplomas; nor to female practitioners of midwifery as such.

SEC. 6.—*Be it further enacted, &c.*, That this act shall take effect from and after the first day of January, 1862, and that all laws or parts of laws inconsistent with the provisions of this act, be, and they are hereby repealed.

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SUDDEN WHITENING OF THE HAIR.—The question of the sudden whitening of the hair is a disputed one, notwithstanding the numerous facts said to be attested in the affirmative. Physiologists, generally, incline to a belief in the sudden change of color; and many curious theories are adduced to account for it.

We have sometimes seen the hair on patient's heads totally change in color, near to the roots, at least, from a black to a silvery white, or even to a brickdust red, but our credulity has been spared a stretch by detecting the previous customary use of *hair-dye*, and supposing that during illness its use was not very convenient. This is, we are aware, spoiling the poetry of the transition, and we would not thus accuse the Prisoner of Chillon, who said :

“My hair is gray, but not with years,  
Nor grew it white in a single night,  
As men have grown from sudden fears.”

But our unpoetical theory would not account for the change as rapidly as Scott says it can take place :

“Danger, long travail, want and woe,  
Soon change the form that best we know;  
For deadly fear can time outgo,  
And blanch at once the hair.”



The best authenticated instance of sudden whitening of the hair is the following, which has recently appeared :

"A correspondent of the *London Medical Times* having asked for authentic instances of the hair becoming gray within one night, Mr. D. P. Parry, Staff Surgeon at Aldershott, writes the following very remarkable account of a case of which he made a memorandum shortly after the occurrence : 'On Friday, February 19, 1859, the column under Gen. Franks, in the south of Oude, was engaged with a rebel force at the village or Chamba, and several prisoners were taken ; one of them a Sepoy of the Bengal army, was brought before the authorities for examination, and I, being present, had an opportunity of watching from the commencement, the fact that I am about to record. Divested of his uniform, and stripped completely naked, he was surrounded by the soldiers, and then first apparently became alive to the danger of his position ; he trembled violently, intense horror and despair were depicted on his countenance, and although he answered the questions addressed to him he seemed almost stupefied with fear. While actually under observation, within the space of half an hour, his hair became gray on every portion of his head, it having been, when first seen by us, the glossy black of the Bengalee, aged about 54. The attention of the bystanders was first attracted by the sergeant, whose prisoner he was, exclaiming, 'He is turning gray,' and I, with several other prisoners, watched its progress. Gradually, but decidedly, the change went on, and a uniform grayish color was completed within the time named.' "

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ILLUMINATION.—It appears that the difference in the illuminating power of the same gas may vary twenty per cent., when tested at the highest and at the lowest points of the barometrical range in this country, from the effect of the rarefaction of the air alone, without taking into consideration the different densities of the gas at the opposite degrees of pressure.—*British Medical Journal*.

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HIGH MICROSCOPIC POWER.—Mr. Ross, at the request of Dr. Lionel Beale, has lately produced a lens with a power of *one twenty-sixth of an inch*.

POSTPONEMENT OF THE NEXT MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—*Sir*:—The undersigned committee, appointed to make the necessary arrangements for the Annual meeting of the Association in this city in June next, hereby give notice, that said Annual meeting will be *postponed* until the first Tuesday in *June*, 1862; on account of the present grievously disturbed condition of the whole country.

N. S. DAVIS,  
G. BLOODGOOD,  
DE LASKIE MILLER,  
J. W. FREER,  
E. ANDREWS,  
THOMAS BEVAN,  
H. W. JONES,  
*Committee of Arrangements.*

CHICAGO, April 25, 1861.

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REVACCINATION:—The Report of the National Vaccine Board for the year 1860 has been presented to the Privy Council. The Board have no evidence whatever that the frequent repetition of vaccination is necessary or even desirable; but they state that many facts tend to render it not improbable that vaccination performed in infancy may lose its protective power after adolescence. On these grounds, they add, revaccination at an early adult age would appear desirable. The Board supplied 219,490 charges of lymph in the course of the year.—*London Lancet.*

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LONG INCUBATION OF VACCINATION.—A correspondent writes to us: "One year and a half ago, I vaccinated a little grandchild of mine, six months old. It did not work, and the three incisions made, rapidly healed up. She has never been vaccinated since; but about five months ago, all three places became sore, and she had the true vaccine pock. Her father vaccinated several children from her, and it worked well in every case. I saw the child last week, and found the well-marked, characteristic cicatrices."—*Med. and Surg. Reporter.*

BOETTGER'S METHOD OF BLEACHING SPONGE.—The softest and cleanest sponges are selected, washed, and squeezed out repeatedly in water. They are plunged in dilute hydrochloric acid, (1 part of acid and 6 parts of water,) in order to separate the calcareous matters. This immersion is for one hour. They are then carefully washed, and plunged into a second bath of dilute hydrochloric acid, prepared as the first, except that there is added 6 per cent. of hyposulphite of soda dissolved in a little water. The sponges are suffered to remain in this bath for twenty-four hours. A final washing with water removes the chemical substances, and the sponges acquire by this method a beautiful whiteness.—*Rep. de Phar.*

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A PROLIFIC PHILOSOPHER.—A French savant, named Tiraqueau, is said to have given every year a child to his family and a book to the public. He had thirty children, was a native of Poitou, and one of the greatest men of his time.—*Nashville Journal.*

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EXTRAORDINARY GROWTH OF TOE NAILS.—Mr. Partridge, at the meeting of the Pathological Society of London (April 2, 1861), presented a toe nail from a woman, which was *six inches in length*.—*Lancet.*

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PHARMACY IN POMPEII.—The excavations at Pompeii have just been recommenced; and we find it stated in the *Athenæum* that amongst the first objects discovered were some jars and utensils of a druggist's shop.

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NUMBER OF PHYSICIANS IN U. S.—The number of physicians in the United States is estimated at 40,481.




# E. SCHUELLER, DRUGGIST AND APOTHECARY,

South-East Corner of High and Rich Streets,

MECHANIC'S HALL, COLUMBUS, O.

THE undersigned would call the attention of the medical profession to his well selected stock of *Drugs and Chemical preparations*, of which he keeps the best and purest articles to be found in the market.

 *Physicians* are respectfully invited to examine before buying elsewhere, as he will always endeavor to give entire satisfaction, both in quality and in price. Physicians may also rely upon their prescriptions being put up most carefully, and without delay, at any time, either day or night.

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## SURGICAL INSTRUMENTS,


BY K. KLOTT.

BETWEEN RICH AND FRIEND STS., WEST SIDE,  
COLUMBUS, OHIO.

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Mr. KLOTT, who has been for a long time in the employment of Geo. Tieman, of New York, has opened a new establishment for the manufacture and sale of all kinds of Surgical and Dental Instruments of the finest quality, which he proposes to sell on the most reasonable terms.

He keeps constantly on hand a great variety of instruments, which he invites physicians, surgeons and dentists to call and examine before purchasing elsewhere. He hopes, and is determined to furnish the western profession with as good a quality of instruments as can be found in our largest cities.

 Orders from abroad promptly attended to.

From an acquaintance with Mr. Klott, and an examination of his instruments, I feel fully justified, and indeed I take pleasure, in recommending them in the highest terms. I have had ample opportunities to test the instruments of many of the most celebrated manufacturers of the world, and I have no hesitation in saying that for beauty of finish and fineness of steel and temper, they are not excelled by any I have ever seen. They are equal to Tieman's or Schively's best.

J. DAWSON.

# OHIO MEDICAL AND SURGICAL JOURNAL.

Vol. 13.

Columbus, July 1, 1861.

No. 6.

## Original Communications.

*Several Cases of Operation for Cataract.* By H. CULBERTSON,  
M. D., of Zanesville, O.

These cases are published not because we present anything new, but because they furnish further evidence in favor of operative measures for this condition.

*Case 1.*—Samuel H——, aet. 73, a colored man, presented himself, October 1st, 1856. Has always been healthy, but has taken for years his daily liquor. He has hard lenticular cataract, also a prominent eye-ball, and he can discern light from darkness; the eye is healthy otherwise. The other eye (the right) shows an incipient cataract. After ten days' preparation and rest, we operated by extraction by the upper section, assisted by Dr. A. E. Bell, of this place, previously half dilating pupil with solution of atropine. After extraction the globe was very much shrunken, and a small portion of the iris protruded, which was returned by the curette. The eye was closed with adhesive plaster and bandage, Belladonna ointment used and cold water, and a pasteboard bonnet placed on his head, as recommended by Walton. No unfavorable symptom occurring, nothing was done but to diet and keep him at rest, and on the seventh day the eye was opened, and union found complete, with slight distortion of the pupil externally, from limited adhesion of the iris to the outer and lower termination of the corneal cicatrix. The eye was again closed and rest enjoined. Everything went on well until the twelfth day, when,

contrary to orders, he walked out and drank a pint of whisky, which resulted in rheumatic conjunctivitis, which was reduced by wet cupping to temple, cold applications, saline purgatives, and pot. iodide and vini colchici. The result, when I last saw him, was that he could distinguish large objects. He went away four weeks after the operation, and died soon afterwards from pneumonia.

*Case 2.*—Miss Catharine H——, aet. 32 years, an Irish girl, presented herself, December 12th, 1857, with soft capsular cataract. I found, on examination, limited synechia posterior, produced by the enlarged lens, and that she was free from disease. Enjoining rest, and ordering a saline purgative, on the 17th December, after fully dilating with atropine, we operated by sclerotic puncturation with a fine straight needle, freely dividing the anterior and posterior capsule and the lens. Rest was enjoined, and cold water applied over a pledget of lint wet with the following

R. Atropine, gr. iij.,

Aquæ Dist. 3j.,

Acid Sulph. gtt. j.

M. N. ft. sol.

The latter was also dropped into the eye three times daily in proper quantity. The case did well, presenting no unfavorable symptoms. On the 27th December, I again operated for the depression of the capsule, and first succeeded in separating the adhesion of the capsule to the iris, by puncturing the capsule and elevating the point of the instrument back and up, and subsequently depressing. No pain or unfavorable symptom followed from either operation. The result, three weeks after the last operation, was that she could discern distinctly persons, but not small objects. She left, soon after this, with her family, since which time I have been unable to hear from her. We were assisted in this operation by a student, Mr. Isom.

*Case 3.*—Mrs. Richard A——, aet. 35, of nervous temperament, presented herself, May 6th, 1858, with double corneal ulceration and incipient staphyloma cornea, from variola, which latter she had taken while west. Her system was broken, and her mind extremely depressed in view of her prospects of future sight.

I gave Syr. Ferri Iodidi and Ol. Jecor. Aselli internally, and applied locally cold water, and enjoined rest in a darkened chamber. After a time, lotions of Plumbi Acetas were used around



the eye, and occasionally a little allowed to enter it. Under this treatment her system came up, and the ulcers healed, and we were not troubled with staphyloma, nor incrustations of lead. The disease resulted in synechia anterior in both eyes, and opacity of both cornea, save at a small spot at the outer margin of the cornea of the right eye, and at the inner of the left. She had also frequent attacks of neuralgia in the right eye, and subsequently in the left, from the traction of the iris on its ciliary margin. These generally yielded to 20 drop doses of

R. Tr. Ferri Murias, ʒss.,

Morph. Sulph., gr. j.

S —

M. sol.

October 20th, '58, we operated for marginal, external, artificial pupil, by laceration, using an Iris knife, hook and scissors. Entering a little to the inner side of the centre of the cornea, in opaque structure, we succeeded in bringing out and strangulating a small portion of iris, and cut it off. On tearing the margin of the iris she retched, and we thought caused the hook to touch the lens. Very little irritation resulted from the operation, and she gained sufficient vision to go about her house and to visit neighbors. This continued for about fifteen months, when it was evident that her sight was failing; and on inspection the cause was seen to be linear cataract, probably traumatic. We depressed the cataract by corneal puncturation, after freely dividing it, in February, 1860. The cataract absorbed well, but a portion of the capsule fell over the pupil and obstructed vision. The poor woman begged me to remove it, which I did successfully, before adhesion took place to the margin of the pupil. She now sees but little, still this is much to her. She can distinguish colors, and the figures on her dress. I have tried various glasses and combination of lenses, but they do not seem to improve vision in this case. The other eye I did not interfere with, as there was no perception of light, and synechia anterior was complete. I was assisted in this case by Dr. A. Ball.

Case 4.—Miss Paralee C——, a young lady aet. 24 years, a native of Virginia, and of nervous temperament, presented herself, June 5th, 1859, with double, congenital capsular cataract. On inspection with the ophthalmoscope, and dilatation of the pupils, it was plain both eyes had been operated on for solution, and she informed me that Dr. Hullion, of Wheeling, had done so, some eighteen months previously. She now could distinguish colors,

but not objects. She had the usual rolling of the eyes common in congenital cataract. There were no adhesions of the iris, and the eyes were healthy; but her general system was aenemic and much prostrated. We gave iron and bitter infusion, and regulated the bowels, and on the 15th June (assisted by Dr. Ball), after well dilating the pupil, and giving a large dose of brandy (not desiring to give chloroform), we seized the conjunctiva below the cornea with strabismus forceps, and using a fine straight needle, punctured the sclerotica, and succeeded in depressing the membrane, after detaching it, at its inner lateral ciliary margin. She was put to bed and nothing given, cold water only applied, and the sol. of atropine dropped into the eye thrice daily. She had scarce any pain, but the eye remained unusually tender for a week, owing, we thought, to the eye (the left) having been inflamed at the time of the previous operation. She was kept in a dark room three weeks, and then allowed the open air, the eye being shaded. In two weeks, assisted by Dr. Bell, we operated on the right eye in the same manner, and succeeded in depressing the membrane. No pain or unfavorable symptom followed. The eye was treated as the other for a few days, and then nothing done. She kept her room ten days, and was then allowed open air, with a shade. The result of these operations, two weeks after, was ability to distinguish the outlines of medium-sized letters and characteristic letters, such as O (for she had been educated by touch), with a  $2\frac{1}{2}$ -inch double convex lens, and with a 4-inch she could clearly make out the outlines of sign-letters across the street. Without glasses she could distinguish persons and ordinary sized objects. When I last heard from her she had just begun to wear the glasses, the sight still as good as it was when she left, and she was teaching music. Before leaving we directed her not to use her eyes much on small work, and to do without her glasses as much as possible.

*Case 5.*—Mrs. Jacob Y——, æt. 58 years, a German woman, of bilious temperament, presented February 4th, 1860, with hard capsulo-lenticular cataract. She suffered from constipation and spasms of eyelids, and her eyeballs were much sunken. There were a few enlarged blood vessels on the sclerotic, but no iris-adhesions; and she could distinguish daylight from darkness. After regulating her bowels, we (assisted by Dr. Strall) operated on the 12th of February, by sclerotic puncturation, with a fine curved needle, and succeeded in depressing to the outer and lower division of the eye,

having previously well lacerated the capsules. She was sick at stomach afterward, for which an opiate was given. Cold water was applied and solut. atropine used, and rest in a dark room enjoined.

On the 8th day we operated again, to depress a portion of the capsule which obstructed the pupil, and succeeded. Nothing unpleasant occurred, and in two weeks more I allowed her to go out with her eye shaded, and ordered her to keep it so shaded for three months. The other eye (right) showed incipient cataract, which has not progressed since the operation on the left. In six months she used a two-and-a-half and four inch glass; with the stronger she can read medium sized print, and with the weaker glass she can see ordinary sized objects across the street. Her sight still improves at this date (May 6th).

*Case 6.*—Mr. C. W. B——, æt. 52, a native of this place, of lymphatic temperament and healthy, presented the 27th of April, 1860, with a capsulo-lenticular cataract of the left eye. There were no adhesions; the eye seemed healthy; and he could detect daylight from darkness. The right eye was still good. After giving a saline purgative, and enjoining rest and quiet a few days, I operated on the 1st of May, 1860, assisted by Dr. Strall, with a fine, curved needle, by the sclerotic puncturation, for solution and depression, and succeeded; and found the lens hard in the centre and soft around this. He had no pain, but was very nauseous, for which I gave him a grain of morphine. This acting, he was not so pothered again. The atropine sol. was freely used externally, around and in the eye, and cold water also applied. He was purged freely, and occasionally given an anodyne. Under this treatment he did well.

But a small portion of the lens had entered the anterior chamber subsequently to the operation. Not desiring to leave it there, on the eighth day I endeavored to return it into the vitrious chamber with a curved needle through the sclerotica, but failed. Not deeming it prudent to remove it externally through the cornea by linear extraction, we waited a more proper time.

The patient did well after this operation also. His business calling him away, he was unable to have extraction performed, and on his return it was evident that absorption would remove the portion. The pupil was kept dilated, and in nine months it became so thin as to partially float back into the vitrious chamber, and lay over



the lower margin of the iris. This distorted the pupil, but the eye did not suffer, and we let it alone. And now, under the use of *vinum opii*, the pupil is gradually closing. He can see objects laterally, and, when the pupil is natural, will probably have good vision. The other eye is still good.

*Case 7.*—Mr. J. D——, æt. 47 years, of bilious temperament; a drinking man, with system considerably injured from that cause; presented himself on the 3d of May, 1860, with hard capsulo-lenticular cataract. There were no adhesions of the iris. The eye was very deep in the orbit, and the other eye had run out from the operation of a cotemporary some two years before. He suffered much from rheumatic pain in this eye, which did not affect the best one. He had not been drinking for some time. He was given saline laxatives, a blue pill or two, and colchicum, for several days, and on the 8th of May, 1860, the cataract was depressed with a straight needle, and freely divided. Cold water and atropine were used, with the usual rest and dark room. For a few days he had no pain; then the bad eye began to ache and pain, but fortunately it was controlled by colchicum, salines and anodynes, and did not attack the best eye. He remained in three weeks, and went out with his eye shaded. He can now see to go about the city or country, and make out some small objects near at hand. He can not yet wear a glass.

*Case 8.*—Mr. Henry S——, æt. 60, had been a hard drinker some twelve years previously to his presenting himself, May 31st, 1860, with a soft capsulo-lenticular cataract. There were no adhesions, and the eye seemed healthy, with the exception of the cataract. The eye was deep set, and the other (the right) showed a nebula on the cornea. This condition aroused my suspicions as to the propriety of operating in this case, but, after a careful examination of the case, at his request I concluded to operate; and on the 4th of June, after preparing his system with tonics, we punctured the sclerotica with a very fine, straight needle, lacerating the capsule very little, and touching no other part of the eye, intending to perform linear extraction subsequently. On going back, three hours after the operation, I found the patient asleep; but the cornea a little hazy around the margin, and the pupil contracted. Cornitis, what we feared, had already begun. Cold water was applied, anodynes largely given, cups applied, (had no leeches,) and mercury was given rapidly, in small doses, and by inunction to ptya-

lism; and this followed by Pot. Iodidi, in free doses. Atrophene sol. was also used freely over the eye, and blisters applied to the nape of the neck at a proper time—but all to no purpose; for the disease took its own course, general inflammation of the eye ensuing, ending in atrophy of the ball.

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*Diphtheria.* By E. L. PLYMPTON, M.D., of Madison, Lake County, Ohio.

PROF. DAWSON—*Dear Sir:* Overwhelmed with the cares of home, and the sick abroad, and wearied with the excitement “of successful or unsuccessful war,” I sit down to fulfil, in part, the intimation I once made, viz.: that I would give you the result of my experience with diphtheria.

That intimation was made at a time when this epidemic made its first appearance in this vicinity, and from its prevalence and fatality in localities not remote from my field of labor, I then apprehended that I should have more ample opportunities for observation than I have since realized. Since the advance of this disease within the limits of my practice, I have not had the opportunity of treating more than fifty well-marked cases, (I mean cases commencing with chills or chilliness, followed with headache, and a fever of more or less violence, and the diphtherial membrane in the throat,) which I could call my own, although I have seen several others, under the care of neighboring physicians. Nor do I assume that it has prevailed in so malignant a form here, judging from the report of other physicians, as it has in many other places.

My field of observation has been in a rural village, of some six or seven hundred inhabitants, and its surroundings, settled with the New England people, whose condition and habits furnish few, if any, examples of the enervating influences of extreme poverty on the one hand, or of aristocratic indulgence on the other. The first appearance of diphtheria in our community was attended with the most exciting apprehensions. It came from neighboring localities with a fearful and sad history. It came as the enemy of juvenile life, carrying desolation and anguish into many a family circle. One family had lost two of its members, another three, another five, and another nine! Notwithstanding the fearful mortality attending its march in other places, from five to fifteen miles distant, I am unable to learn that more than five deaths have occurred within the

limits of this township, which contains among its population, as I see by the township records, eleven hundred children of school age, to which number, if we add one third, (the assumed number below the age of five years,) would make near fifteen hundred in all. My first opportunity of witnessing a case of diphtheria occurred last June, in the case of two patients, under the care of a physician of good standing, but a stranger to the disease. One was a girl of five years of age, and was then in what is termed the "croupal stage." The obstruction to respiration, however, seemed almost wholly circumscribed to the glottis, producing paroxysms of extreme dyspnea, or, I might say, mechanical strangulation. Her throat had been repeatedly cauterized with nitrate of silver without the least apparent benefit, and she died a few hours after my visit. At the same time, and in the next house, my attention was called to a lad fourteen years old, then sick five or six days, with the tonsils much swollen, and with a muco-purulent discharge from the nose, fetor of the breath, etc. This boy was reported convalescent soon after my visit, and continued able to walk about the house and in the streets for some ten days, when his parents became suddenly alarmed at his apparent prostration and sent for me, at the same time summoning his attending physician. On our arrival, we found his pulse extremely weak and rapidly growing imperceptible, occasionally making an effort to vomit, calling for more air, wishing to be fanned, complaining of nothing but a "want of breath," appearing to be in a state of syncope.

He died in four hours after our arrival, without any improvement from active stimulants, cordials, etc. In short, it was death beginning at the heart. To my mind, it was a case in which the blood had become so much contaminated by the toxic elements engendered by the disease, as to render it incapable of longer sustaining the action of the heart.

The career and termination of these two cases most emphatically impressed on my mind the idea, 1st—that diphtheria is as much a blood disease as small-pox; 2d—that it should be treated with such hematic remedies as have a tendency to correct this morbid condition; 3d—that the treatment, to be effective, must be commenced either before or early in the active stage of the disease, and that it is useless to waste much time or trouble in treating the local affection of the throat. Acting upon these conclusions, I have, in every case, placed my principal reliance upon some combination of



chlorine, and mainly upon the chlorate of potash, commencing usually with a mild mercurial cathartic, oftener using the Hyd. C. Creta than any other. To a child of five years of age I give enough of the saturated solution of the chlorate to contain three or four grains, and repeat the dose every three hours during the career of the disease; and to patients older or younger in relative proportions. When the child is capable of gargling, I have him use one mouthful as a gargle, for the purpose of washing out the loose excretions of the throat, and then immediately swallow the prescribed dose. I have repeatedly pencilled the throat with the nitrate of silver and the tincture of iodine without any very satisfactory results. I know of no conditions in which the cauterizing promises to do good, except in those cases where it may be necessary on account of the tumefaction of the surroundings of the throat to remove with a caustic swab the tenaciously adhering excretions for the purpose of gaining a temporary respite from threatened suffocation till the disease has time to finish its destined career.

I can see no more philosophy in removing the membranous exudation with the expectation of mitigating or cutting short the disease, than I can in removing the pustules of variola with the expectation of safely terminating that disease. The one is as much an element of systemic disease as the other. If the diphtherial exudation be in the air passages below the epiglottis, the caustic swab will stand a poor chance of removing it in season to save the patient; if the exudation be above, it will not be much in the way of his recovery. I had used the chlorate of potash in scarlatina (as a gargle mainly) several years before I heard of diphtheria, and its good effects in that disease, coupled with an incident that occurred many years ago, contributed greatly to inspire me with confidence in its utility whenever the blood is presumed to be impaired or contaminated by the action of some zymotic poison.

Some twenty-eight years ago, when scarlatina maligna was prevailing in our midst with the most disastrous results, I had two patients—the one five years old, the other perhaps two—attacked in the decline of the acute symptoms with peripura—blood issuing from the mouth, nose, eyes, ears, bowels, bladder, and in one case, also, from a sloughing abscess behind the ear, attended with the most alarming prostration. These cases I treated with calomel in moderate cathartic doses, repeated every four hours, and guarded with opium, till they had taken six or eight doses, when the blood

acquired the power of coagulation, and the hemorrhage subsided, and my patients got well. But I was surprised to find in the chamber vessel which they had used pure metallic mercury. Then, thought I, chlorine is the element which the blood craves, in order to correct that abnormal condition which gives rise to *perpura*.

I have since treated several cases on the same principle, with the same happy results, modifying the treatment somewhat with other compounds containing chlorine—such as the chloride of soda, muriatic acid, etc.,

Now, I do not presume that *perpura* and diphtheria are of the same pathological character, although I know that a hemorrhagic condition of the system does occasionally attend the latter; but I do think they have a remote affinity, sufficient to suggest the propriety of prescribing medicines for this disease with reference to their power of eliminating or counteracting hematic poisons. And at the head of this class of remedies for diphtheria, I place the chlorate of potash.

Whether it supplies some wanting element to the blood, or sets in operation a train of action that eliminates the diphtherial poison, or has the property of neutralizing the poison, or whether it endows the nervous centres with power to endure the influence of the poison during the course of the disease, I do not pretend to know. But I have thought the continued administration did increase the solid contents of the urine—but of this I am not positive. I have written thus much respecting its use, not because it is not generally given by regular practitioners, but because I am constrained to believe, from what I know of some of them, and the results of their practice, that they do not make it the most important item of their treatment. Some use it incidentally as an auxiliary to other means; while others do not use it at all. I not only have faith in it as a curative remedy, but as a prophylactic. It was observed by myself, and I believe by others, during the winter and spring months, that, whenever we were called into a family, and inspected the throats of the uncomplaining children, we would find three out of every five, on an average, with the mucous membrane of their throats very red, often a dark red, and occasionally showing elevated points with gray summits, while the children were yet at play as usual. These cases evidently awaited some exciting cause to develop the active invasion of the disease. A sudden cold has proved the most common, but it might be any

other cause that lowered the excitability sufficiently to provoke reaction—such as an improper meal, over fatigue, or a malarious chill. Hence I have always, whenever called into a family where this condition of the throat prevailed, set the children to taking the chlorate till the redness disappeared. And by this means I flatter myself that I have prevented many attacks, while I modified into a mild form many cases where the disease was ultimately developed.

Now, I do not wish to be understood as giving to the chlorate of potash the reputation of a specific to stand the brunt of an attack in every case alone. Because this we do not do with any medicine. We know that quinine often stands in need of the aid of other medicines to enable it to cure and remove the consequences of an intermittent fever. And if there be any medicine which merits the assistance of allies, I am sure it is the chlorate of potash.

I have discussed this aspect of the subject with some degree of earnestness, because I believe that had the disease been properly medicated in the early stage of development with this agent, there would have been in this part of the State much less fatality among those attacked. Doubtless in many localities where malarious influences prevail, quinine can not be safely omitted (and as a hæmastic remedy, I think it admissible in any case); and in others of an anemic stamp, the muriated tincture of iron should be given; but in all cases requiring any medication at all, the chlorate of potash should not be omitted. I am persuaded that calling the disease by the misnomer of “putrid sore throat” has been a frightful source of mal-practice, especially among those whose principal anxiety is to know the name of a disease rather than its nature. Calling it “putrid sore throat,” the old foggy Doctor sought to cure it with prostrating cathartics, alteratives, and caustic pencilings; and the Botanic went to work with lobelia, pepper, and perhaps mandrake; while the Homeopathist, puzzled with his “*similia similibus curantur*,” exultingly consoled his patrons that “he was giving nothing to harm them.” Each pursuing his distinctive mode of treatment, the old foggy lost three out of five children in one family, the Homeopathist three out of four, and the Botanic nine out of ten. Certainly neither of them have gained any laurels by the result of their practice in this vicinity. When the Botanic had lost six of his patients, some neighbors interposed and tried to induce the family to have a change of doctors, but when the Botanic



assured the afflicted parents that the "pothecary doctor," which had been recommended, would give the chlorate of potash, which was "a most virulent poison," he secured the privilege of escorting the remaining three out of the world.

I notice that among some writers there is a disposition to identify diphtheria with scarlatina maligna, holding it to be a variety of that disease. Now to me this seems very strange. Scarlatina has been an old acquaintance of mine these thirty years. Seldom during that period have five years elapsed without its return in an epidemic form; and yet among the many hundred cases I have treated, and among the many deaths I have witnessed, I do not remember of seeing but one case ending in croup, whereas in diphtheria, neighboring physicians tell me that nine out of ten of their fatal cases have terminated with a diphtherial attack of the air passages, most generally confined to the trachea. Certainly I have witnessed no other fatal termination, except the case referred to in the beginning of this communication. The frequency of this local manifestation doubtless depends very much upon that atmospheric condition which produces coughs and colds, keeping up in children an irritable or congested state of the mucous tissues of the larynx, trachea, etc. Again, in diphtheria I have never witnessed any destruction of the tissues beneath the exuded membrane, while in malignant scarlatina some of my patients bore most unmistakable evidence of disorganization in the mutilated appearance of the soft palate, the uvula, and tonsils, even after they were restored to health.

Is it contagious? In one sense it is: it can be communicated by the contact of diphtherial matter to an abraded surface, or to a mucous surface exposed to the contact of air. Of this I had a convincing proof in my own person. While cleansing a swab which I had used in the throat of a very bad case, I drew it through betwixt my thumb and finger, upon which was a very slight abrasion. In forty-eight hours this abrasion was surrounded with an ash-colored blister of the size of a twenty-five cent piece, attended with some pain in my limbs, and an unusual degree of chilliness. I attended a little girl of six years of age, who had the disease in a moderate way, and after making four or five visits I dismissed her, leaving her convalescent, as I supposed. The next day I was recalled, and found the nymphæ enormously swollen, and the visible part of the vagina coated with the diphtherial exudation. This

recurrence of disease proved the most formidable part of the case. In this case I doubt not the infection was conveyed from the mouth to the genitals by her hands. I do not think it is capable of being communicated through the medium of the air. I have had no cases which could be traced to an aerial exposure.

I still have some thoughts touching controverted points in relation to this disease, which I intend to present, but I can proceed no further.

After a subsidence of the disease for many weeks, I now have the charge of a family of seven children, all sick with diphtheria. This family resides in a dilapidated house, under which is a large cellar, containing, until now, water one foot in depth, in which was floating rotten potatoes, cabbage, and other vegetables, emitting a horrible stench. I think these children are now in a way to get well.

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*Mind and Matter, and the reciprocal influence of the Physical Organization and Mental Manifestations.* By WM. A. BROWN, McConnellsville, Ohio.

The materialistic philosophy of that school of reasoners which claims Spinoza, Hobbes and Priestly among its brightest ornaments, after having deified MATTER, which it supposes, as Plato taught several thousand years ago, to have existed from all time, inculcates the doctrine that MIND is but the result of a peculiar physical organization of matter, and thought the physiological sequence or function of the brain; that the brain, in short, is a vital organ of the same nature as the liver, kidneys, pancreas, etc., and that ideas are secreted in some such manner as bile by the liver. Aristotle taught that physics were the first in the order of studies, and metaphysics the second, and Newton thought it necessary to give the charge that the former should be on their guard against the latter; but many individuals will incline to the belief that physics can be made as absurd and pedantic as metaphysics, by running into the opposite extreme. But even in the most ultra materialism, many are the truths that shine forth with gleaming lustre, like the brilliant, diaphanous crystals of quartz in the conglomerate of dull pebbles and sand. And if materialists even go so far as to fall into error, they do better than those who hold up as a great

champion in philosophy, Bishop Berkeley, who is remembered by every physician who has ever read anything about the tar water monomania, with which he was identified. Bishop Berkeley denied that matter existed at all—everything was mind,—and our perceptions of external things were notions impressed upon the mind by the Deity, who gave us our five senses that he might exercise the special prerogative of making them so many channels of delusions.

"What a sublime discovery 'twas to make the  
Universe universal egotism,  
That all's ideal—*all ourselves* ;

\* \* \* \* \*

But ever and anon comes Indigestion,  
(Not the most 'dainty Ariel,') and perplexes  
Our soarings with another sort of question."

*Don Juan, Canto XI., Stanza ii-iii.*

Yes, indeed, we wear our heads, and are so much flesh and blood after all. But there is no reasoning, the wildest and most extravagant, but contains more or less of truth; and some of the greatest facts that are known, have been gathered into the great store-house of the legitimate knowledge of mankind, from heaps of the most absurd nonsense. The common intellect from time to time sends out envoys to all the outposts of knowledge, and down into the very sewers of falsehood and deception, to gather into the common treasury the gold dust, a grain at a time though it may be. And Aristotle and Epicurus, and Bacon, and Newton have each sat at the gate, and held the keys, and been *Charge de Affairs*.

The most ultra materialists have never yet lost sight of mind as an existing principle, as the Atheist, although denying, never loses sight of God,—clothing Nature with all the divine attributes, it is still the same jewel in a new setting, the old picture in a new frame. They were the first to point out and call attention to the intimate relation existing between the body and mind, and their reciprocal influence upon each other; and if materialism considers thought to be the secretion of the brain, it deserves credit for a very ingenious hypothesis, and one, probably, which is as capable of satisfying our mental wants in regard to the matter as any other theory so far advanced. But this is a metaphysical point in physics, and if it contains any truth it is difficult to circumscribe it; but nevertheless, if there is no truth in the theory itself, we *feel* that there is a fact "some place in the neighborhood;" but it is a misty atmosphere in which to go searching for it. We cannot repress, however, the natural tendency of the mind, that innate desire to wander out into the penetralia in search of the hidden secrets of Nature,



although conscious of the liability to get lost in the darkness, and of not finding the hidden secrets or our way out again. There are certain truths lying on the confines of fact and fancy, that seem with provoking persistency to elude satisfactory elucidation; and the abstruse problems connected with intellectual operations are just sufficiently apparent to stimulate constant inquiry, and even provoke experiments with inductive philosophy, but ever beyond *proof*; and after a great amount of labor and thought expended on the subject, it is about as mystic, if not more so, than at first. Thus have psychologists fallen into scholastic vagaries and scientific speculations, never enjoying the consolation of the mathematician, whose "there's the proof of it" must, indeed, be an immense luxury. The highest refinement of matter is manifest in the organization of man, and whether it be that mind is the result of a peculiar material organization, or vice versa, or a something independent and of itself, the fact of a very intimate relation between it and the body must be recognized. Lavater was wandering around this truth when he was writing dissertations on the intellectual prognostications of certain eyes and ears; and Gall and Spurzheim were sailing in the same direction in their phrenological extravaganza. But we are inclined to the belief that it is safer to follow the Swiss enthusiast than the German physiologists; the mapping out of the brain by these latter gentlemen, and converting our heads into a sort of globe, to be turned about and inspected like the geographical models exhibited in academies, always suggested to us a ludicrous application of the moon's influence. Phrenology has had very fair opportunities to establish its claim as a science, for which it clamored the day after it was born, and all its puff and blow has only demonstrated to the world how sandy are the foundations upon which it is reared. Like every other doctrine bolstered up in a hurry, however plausible and enticing it may be, it is not long until it tumbles down.

Lavater only endeavored to perfect and systematize what has been known from the time of Hippocrates, who was himself somewhat of a physiognomist; and the greatest error of the ardent Swiss is in too much system; he almost lost the truth entirely by cutting it up in small pieces and hanging them on our hands, feet, mouth, nose, hair, etc. General physiognomy is true; special physiognomy is doubtful, and of uncertain signification. "We are settled in our conviction," says a graceful writer, "that there is something

in personal beauty of a representative and correspondent character. It represents a spiritual beauty—corresponds with a moral symmetry. Though we call it an *outward* property, still it must be a picture of the internal. It would seem impossible that there can be a speaking expression of grace and loveliness, upon a face that is but the telegraph of an inward deformity and ugliness. \* \* \* We do not maintain that beauty of person must necessarily be the representative of *moral beauty*, according to the best and highest definition of that term. That definition, we presume, would include the virtuous and heavenly. That these traits are unfailing accompaniments of noble features—the beautiful countenance—the finished form—it would be hazardous and foolish to assert. We believe that external beauty is the representative of an internal and spiritual quality of the same nature. That beauty may be spiritual, though it may not be moral—the Beauty of Virtue. It may be the beauty of superior and surpassing powers—the Beauty of Genius. It may be the beauty of a mind, uncommon in its attraction, and in its proportions beyond a fault or question. It may be the beauty of intellectual symmetry—and this may find its speaking resemblance in the chiseled face and figure, as certainly as the moral loveliness of the heavenly inspired—the emphatically *good* man. Of what more perfect mental proportions could the human countenance have been indicative than the countenance of Napoleon? The symmetry of Genius spake there.”

Who can look upon the bust of the lamented Henry Clay, and not believe him to have been a candid, earnest statesman; or upon that of Gen. Jackson and not have the conviction forced upon him, that “By the Eternal, he would *buldge*” through all obstacles opposing his purposes, by the indomitable energy and iron will expressed in his countenance. How expressive is the countenance of Washington of those qualities which so endeared him to the hearts of his countrymen, and made him the admiration of all men, and which Fame, seeing, hung up with his name in the highest gallery of her Temple! There is enough of kindness and amiability and unbounded philanthropy, to allow him to take the whole world under his Fatherly care, as well as his own country :

“His life was gentle ; and the elements  
So mix'd in him, that Nature might stand up,  
And say to all the world, *This was a man!*”

Julius Caesar. Act V, scene V.

What scintillations of wit sparkle in the countenance of Thomas Moore; the very lines and furrows in his face seem sticking full of epigrams and graceful compliments; what a contrast to the melancholy, morose, gloomy visage of Rousseau! In Shelly's deep, languid eyes was expressed all the unintelligible, dreamy metaphysics embodied in "Queen Mab;" and in the portrait of old Dr. Sam Johnson we read anew the morals in "Rasselas," and see all his jealousy and his charity, his prejudice and his sense. The description of Cassius might have been applied to him:

"Seldom he smiles; and smiles in such a sort  
As if he mock'd himself, and scorn'd his spirit  
That could be mov'd to smile at anything."

*Julius Caesar.* Act I, scene II.

The respective qualities for which these individuals were distinguished, as manifested in their works and deeds, were outwardly expressed in their physical forms, as the portraits and busts which the pencil and chisel have preserved to us, abundantly testify.

Man is by nature a physiognomist; we every day hear persons speak of "studying human nature"—recognizing those diversities of character attendant upon certain peculiarities of bodily conformation. But it would be difficult, if not impossible, to analyze the particular features upon which these expressions depend. The man of the world, though, perhaps, unconsciously, is a more finished and consummate physiognomist than the philosopher or literary recluse, however close a student he may be of the tasteful, but vague doctrines of Lavater; he surveys the entire man, and at a glance passes judgment upon his intellectual and moral character, and it is rarely that his conclusions will be found to be erroneous. There are no certain and special indications belonging to the hand, mouth or ears, but an unexplained and undefined *expression*, pervading the entire person, which is an almost infallible index of character. If Napoleon favored men with large noses, a protuberant proboscis was not the only expressive feature he recognized. Some individuals find it an impossibility to acquire this discriminating knowledge of men, and neither books or masters will ever bring them to a comprehension of it. The student himself must have the *faculty* for acquiring this special information, and will become proficient without being aware of the fact. This knowledge, with reference to the conditions of disease, constitutes one great difference between medical men. Some physicians, as soon as they enter the sick-room, by their physiognomi-



cal acumen, seem to understand at once what are the difficulties, and have their diagnosis half made up before they have asked a question. It is said that Trousseau had this faculty in an eminent degree. It is not long since it was my good fortune to sit under the instructions of that learned and excellent man, Prof. Francis Carter, of the Chair of Obstetrics in Starling Medical College, and hear him impress upon his class the importance of studying the physiognomy of the parturient woman, and the pathognomonic symptomatology of the countenance. It will be long before I forget his lucid descriptions, the importance he attached to the doctrines he inculcated, and the impression made on my mind.

The union of mind and matter is apparent in these external indications of character. We discover certain mental peculiarities to be attendant upon certain orders of bodily organization, especially approximating to uniformity in the types of physical conformation, constituting the temperaments of Hippocrates. Of course there is as great diversity of mind as there are individuals; but in those whose physical organizations are of a given type will be manifested a greater or less proclivity toward those intellectual operations which were observed by the ancients to be characteristic of that type. And the diversities, shades and modifications in the individual character, are thrown out and radiated from the person of the individual man; to which we are indebted for our discriminating recognition, in obedience to impulses that, in their nature, seem intuitive. It is not alone men of experience and mature mind who are cognizant of the outward indications of the spiritual nature, but even in children, whom we cannot suppose to have much knowledge of the world or of men from observation and the experience of life, we find a remarkable degree of physiognomical knowledge, which assumes an expression analagous to instinct.

When we read the finely drawn portraits of Tasso's Erminia and Armide, the Cordelia; Juliet and Desdemona of Shakespeare, or Byron's Gulnare, Medora and Haidee, the phantoms of such physical forms float through the mind, as satisfy an inward conviction of conforming in some mysterious manner to the respective moral characteristics exhibited in these creations. We do not see the same image of a man in Lear, Macbeth and Othello, but such physical forms come up before us as we deem are fitted to the fullest development of each tempest like passion. Macbeth could never feel the intensity of love and jealousy that swayed the breast

of Othello; and we never imagine a Macbeth to appear like an Othello. The uproarious, riotous, sack drinking, purse snatching companion of Prince Hal, could never be the moral, high minded friend of Hamlet; and we always think of Falstaff as a fat, merry, jocose fellow, with a big belly and big calves, and a countenance full of cowardice and brag; but Horatio is ever the quiet, sedate, sentimental student, with closed lips and a thoughtful eye.

"We may venture to pronounce," says the learned and eloquent Lord Karmes in his treatise on Criticism, "with some degree of assurance, that man is provided by nature with a sense or faculty that lays open to him every passion by means of its external expressions. That we should be conscious intuitively of a passion from its external expressions, is conformable to the analogy of nature: the knowledge of that language is of too great importance to be left upon experience; because a foundation so uncertain and precarious would prove a great obstacle to the formation of societies. Wisely, therefore, it is ordered, and agreeably to the system of Providence, that we should have nature for our instructor." This highly talented author remarks in another place: "The natural signs of emotions, voluntary and involuntary, being nearly the same in all men, form a universal language, which no distance of place, no difference of tribe, no diversity of tongue, can darken or render doubtful; even education, though of mighty influence, hath not power to vary or sophisticate, far less to destroy, their signification. \* \* As the arbitrary signs vary in every country, there could be no communication of thoughts among different nations, were it not for the natural signs, in which all agree: and as the discovering passions instantly at their birth is essential to our well-being, and often necessary for self-preservation, the Author of our nature, attentive to our wants, hath provided a passage to the heart, which never can be obstructed while eyesight remains."

The innumerable differences in men, in their mental characteristics and bodily conformation, can be referred to nothing but differences in organization throughout the entire system. The differences depending upon *temperament*, are to be attributed in part to corresponding differences in the organization of certain portions, or the whole of the body. And in consequence of this influence one person differs from another in the qualities of both person and intellect. He is more highly gifted, sprightly and vigorous, or the reverse; or he is more courageous or timid, according to his organi-

zation. Temperament, depending upon the relative proportions of the different organs, and their relative energy, the physician every day feels the importance of recognizing in his professional intercourse with those whom he patronizes.

The four temperaments of Hippocrates, though resting on the exploded hypothesis of humoralism, Cullen remarks were probably first founded upon observation, and afterwards adapted to the theories of the ancients. Gregory added the Nervous temperament, and they have been variously modified in their arrangement and nomenclature, and several theories advanced to explain their existence. They are infinitely varied, and any of the types are difficult to realize; it has been remarked that every individual has his own peculiar temperament, upon which depend his health, ability and happiness. They combine together, and all intermediate shades are produced; and it is often difficult and sometimes impossible to determine under which temperament certain individuals may be classed. The influence of civilization, of social habits, professions and trades, is great in thus modifying temperament. Says Dr. Carpenter, "the higher the degree of intelligence we find characteristic of a particular race, the greater is the degree of variation which we meet with in the characters of individuals," not only in regard to intellect, but in physical organization.

The late Dr. Charles Caldwell has made some pertinent remarks bearing upon this subject: "By 'organization,' I mean the minute interior or radical structure of the tissues which compose the human body. That diversity in this creates a diversity in the vital properties, and that again a diversity in character, cannot I think be doubted. Whether the difference of organization here referred to consists in different proportions of the elements of living matter that form the tissues, united in the same way, or in their different modes of arrangement and union, or both, or whether it may not arise in part from different proportions of the simpler tissues entering into the formation of the more compound organs, is not known. Minute anatomy has not yet attained a degree of perfection competent to settle a point of such subtility."

Jockeys talk of "scrub" horses, and the physiologist may talk of *scrub men*; there is blooded stock among human beings as among horses, cattle and sheep, and we every day pass judgment on the quality of men. There are natural differences which cannot be obliterated. It was the theory of the ancient philosophers that



nothing would bring so much happiness to the human race as to institute a perfect equality—equality in physical strength, in mental capacity, in all things; men would then lose their individuality—their identity; and envy, jealousy, and our grosser passions would probably have no existence in our natures. We can conceive, indeed, of very delightful states of society: men may retire into their closets and build up very fine systems of philosophy, and come out into the world with an inclination to combat the present existence of things, and remodel creation after their own views. Hence the irreverent theory why man was created last—“he would have been continually bothering the Almighty with suggestions.” God probably understood his business, when he set a mark upon every man by which he would know him. When Pope said, “The proper study of mankind is man,” he meant man as he *is*, and not as we might think he should have been. We may use the language which Avicenna delighted to exercise as a demolisher of theorems—“God has ordered it,”—and it would no doubt be well for every one to follow in the wake of the philosopher, in these matters, and not trouble ourselves too much about His purposes.

In conversation with a very learned anatomist—a gentleman eminent for the wide range of his information—speaking of the efforts to make poets and statesmen, actors and artists out of all the youth in the land, he observed, “If a lad has the native force, the natural gifts: if he has the elements of greatness in him, he will surmount all obstacles, and rise in spite of fate; such an one cannot be kept down. But if he lacks in these natural qualities, all effort to make him great by a collegiate, sort of hot-house process, is absurd and nonsensical.” The Professor in his remark did not wander from the truth. When Shakspeare made Dogberry say, “to read and write comes by nature,” he intended to be witty; but he made Dogberry utter more truth than he was probably aware of. We would not presume to say the race is not susceptible of cultivation; we have exercised our talents in rendering better and more beautiful our horses, and oxen, and dogs, and why not now turn our attention to the breeding of good citizens? Who knows but that in a hundred years Cato may be commended for loaning his wife to improve the family of his friend, and the example of the illustrious Roman followed after the lapse of thus many centuries? The Romans studied the breeding of statesmen and warriors, and the history of their Senate and their campaigns seem

to show that their efforts were successful. Well might the great Cabanis exclaim: "After having remodeled a hundred times the race of horses and dogs—after having transplanted, grafted, cultivated, in all manners, fruits and flowers—how shameful is it to have totally neglected the race of man!" The known laws governing the improvement of stock apply with as much force to man as to any other genus of animals. We know how the beautiful women of Caucasia have ameliorated the condition of the Turks; and many instances are on record of a fine race of men resulting from the encampments of soldiers in obscure and remote parishes, where the race had become deteriorated. For the past fifty years philanthropists have been laboring in this field of inquiry, and pointing out what vast improvements might be made; but as yet there are very few persons who select their wives with any reference to the natural consequences following matrimony. But no degree of cultivation and improvement possible to be attained, will be adequate to the eradication of the differences which were ordered in the beginning. There will be men, in comparison, naturally of a low order and coarse texture, of dull sensibilities and gross appetites; whose sense of taste, smell and hearing, are incapable of receiving delicate impressions, faint odors, and soft sounds, and who are incapable of analogous mental emotions, which they can never understand or appreciate. They experience only moderately the sense of pleasure or of pain; they are never overjoyed or over-sorrowful. They have no fine appreciation of the beautiful—a landscape, a poem, a strain of sweet music, does not electrify and thrill them with pleasure. In short, they are *scrub* men. There are others with whom Nature took more pains—

"An invisible instinct doth frame them  
To royalty unlearn'd; honor untaught;  
Civility not seen from other; valor,  
That wildly grows in them, but yields a crop  
As if it had been sow'd."

*Cymbeline*, Act. IV.

Natural meanness and baseness, by the restraints of education and social advantages in life, may be hid, but the individual will never be noted for charitable deeds and worthy purposes, if he acts out his genuine feelings. True nobility is born with us, and is not the necessary attendant upon jewels, and wealth, and hereditary honors. It is often found in the hovel as well as the palace. Nobleness of character is the gift of Nature; and is as essential a part of the organization of the person so distinguished, as his mus-

cles and bones. Education, though of powerful influence in forming and determining character, is insufficient to wholly efface or alter the labels which Nature has put upon us.

The body, through which the soul acts and operates, determines the kind of action. If the soul has good organs to act through, it will act well; if it manifest itself through a coarse, dull, sordid physical organization, the dirt of its travel will hang to its garments. The brain, the organ through which or by which it reasons and feels, is powerful from quality rather than quantity—in this all physiologists are agreed. If an individual possesses a large brain, and of good *quality*, other conditions being equal, he may be truly great, adequate to great emergencies and enterprises; he will have clearness and force of intellect, and will be competent to exercise a commanding influence over others. But if he have a brain ever so large in size and weight, if it be deficient in *quality*, he may be far below mediocrity in mental capacity and strength.

Galvani thought the body to be a galvanic machine; Dr. Arnott considered the brain an electric battery; we feel like going over to Galvani, and will not quarrel about names. The body is a machine, *per se*! Why may it not be a *machine*?—there are good watches and bad watches—there are good bodies and bad bodies: some finely wrought, and others knocked up, as it were, by Nature's apprentices. And whatever the soul can be, and in whatever manner it operates, that mysteriously complex cerebral organ has its work to perform: and if Materialists tell us it *secretetes* poetry and mathematics, as the liver secretetes bile, why not pocket the theory and go off satisfied? It is as wise to believe the doctrine of secretion as any other doctrine; for the truth is, we don't know anything about it. Swift, in that "divine treatise," the "Tale of a Tub," introduces a digression concerning madness, and takes the opportunity to dilate upon the question of individuation between Alexander the Great, Jack of Layden, and Monsieur des Cartes; and thus discourseth very learnedly:

"There is in mankind a certain— \* \* \* \* \*

And this I take to be a clear solution of the matter."

Nobody but Dean Swift has ever said so much in so little, upon so abstruse a question; but he tells us "it is the most abstract argument I ever engaged in—it strains my faculties to their highest stretch." And he therefore solicits the reader's most earnest attention to his solemn block of asterisks.



It is physical organization, after all, that determines the differences in men. That hump on the back of Richard III. should be judged for a vast deal of villainy: Spaksppeare has put into his mouth an apology for his crimes :

"Cheated of feature by dissembling nature,  
Deformed, unfinished, sent before my time  
Into this breathing world, scarce half made up,  
And that so lamely and unfashionable,  
That dogs bark at me as I halt by them ;—  
Why I, in this weak piping time of peace,  
Have no delight to pass away the time,  
Unless to spy my shadow in the sun,  
And descant on mine own deformity."

It was his *person* that goaded him on to diabolical deeds and made him a rankling nettle in the kingdom. Poor Queen Margaret knew the signification of his outward deformity, and chills our blood cursing the "poisonous, bunch-back'd toad,"

"That dog that *had his teeth before his eyes*,  
To worry lambs and lap their gentle blood."

The connection between matter and mind, or soul, is abstruse and mysterious; the fact of the union is fully settled, while its nature seems beyond our reach. We cannot tell whether the soul is the neurine, nervous fluid, vital principle, or a subtle, powerful, imponderable agent superadded to the nervous system. The older writers speak of it as "some exquisitely subtle *gas*—some fine, elastic, invisible fluid, sublimated by nature in the deepest and most unapproachable recesses of her laboratory, and spirited with the most active of her energies." Its nature has puzzled philosophers from the time of Zoroaster; Plato dreamed away his life about it, and never found time to come down to the facts of the world. If we were to compare it to anything material, it would be electricity, from its subtility and celerity of action. But nervous fluid (if it be nervous fluid) is not electricity—the most delicate and refined instruments cannot be influenced by it, and fail to detect its presence. It is too immaterial, too refined, to be recognized by any of our senses. The microscopist cannot mount it upon his slide, nor the anatomist demonstrate it by his scalpel. After it has once fled from the body, no power on earth can bring it back, and its material friend is yielded up to chemical affinities. From the brain, through which it manifested its highest power, like from the pure and unpolluted flesh of Ophelia, violets may spring. We are to-day a man—tomorrow a green bush—the next day hanging in the market as a roast of beef or a haunch of venison. In the imagination, Hamlet

traced the dust of Alexander 'till he found it stopping a beer-barrel!  
 "To what ignoble uses may we come, Horatio!"

"Imperial Cæsar, dead and turned to clay,  
 May stop a hole to keep the wind away."

But it would seem that the incorporeal part of us—that *spirit*—does not die when the organic machinery gives out. If Atheists say our faith in immortality is a weakness, is it not a "sweet madness?" If Pythagoras taught that after death we existed, even in the bodies and forms of brutes, was not Pythagoras a much more amiable man than Epicurus, whatever we may say of their systems of philosophy? But as, while in the body, it cannot be demonstrated in the abstract, when out of the body, it cannot be proven to exist. "I leave," says the cautious and candid Dr. Carpenter, "the question entirely open whether soul has or has not an existence independent of the body."

The people of Abdera deemed that Democritus, by long study, had lost his wits, and sent for Hippocrates to cure him. When the messengers came into the presence of the great physician, they shed tears that their townsman and the master of Epicurus should be lost to them.

"—— never stirring from the sod below,  
 He weighs and measures all the stars;  
 And while he knows the universe,  
 Himself he doth not know,  
 Though now his lips he strictly bars,  
 He once delighted to converse.  
 Come, God-like mortal, try thy art divine,  
 Where traits of worst insanity combine."

LA FONTAINE.—Book viii. fab. xxvi.

Hippocrates had but little confidence in the story of the people of Abdera, but hastened, however, to see his friend. When he came to his illustrious patient, he found him busy with his dissections; Democritus was hunting for the soul; so absorbed was he in the search that he did not notice the approach of the God-like Greek.

"He traced with study most insane,  
 The convolutions of a brain;  
 And at his feet lay many a scroll,  
 The works of sages on the soul."

The world does not know what it has lost by the untimely fears of the Abdereans. The interruption of Hippocrates may have been at that particular juncture of time when Democritus was about to take the thing between his fingers;—as it is, it has not been found to this day. Although Dichearchus professed to have discovered it once upon a time astride the *sella turcica*. He was

learned and eloquent; but it has been insinuated by the moderns that he would boast a little.

Upon the capacity of the physical organs to act with force and elegance under its stimulation, depends the mental power of the individual. In some individuals the organism is so delicately wrought, so exquisitely toned, of such extreme fineness of texture in its ultimate component parts, the mutual relation of the material and immaterial—mind and matter—is so intimate that it is difficult to tell where the physiological condition ends and the pathological commences. The balance between body and mind is lost, and the former is soon destroyed by the tumultuous action of the latter, as a piece of ordinary machinery is torn to pieces by the application of too great power. In such persons is manifested a remarkably exquisite sensibility to all disturbing influences operating either upon the vital functions or exciting emotional or intellectual operations of the mind. In their physical exertions, their exercise will be active and quick, but they soon succumb to fatigue. In their intellectual operations, they delight to wander along the flowery paths of the imagination, but not through the oak forests of scientific inquiry. They will pursue metaphysics, but have little taste for physics and the inductive philosophy of Bacon. They will chase butterflies, but do not know the weight of cattle. They will dream of the stars, like children, but never think of calculating their distance from the earth like an astronomer. Everything bright and beautiful, all that tends to refine and elevate man, has for them a peculiar interest. Grand prospects, the valleys, cataracts and caverns of the earth, the sea, the heavens, excite deep feelings and reverential awe. They look upon the mountain rearing its head to the sky, and are competent to the production of a poem about it, but not a report upon its geological and topographical characteristics. The passions are lively; the emotions readily excited; they are ardent, enthusiastic, and make a sorry battle in the hustle and tustle of this great free-fight we denominate "the world."

"Creatures of other mould, earth-born perhaps,  
Not spirits, yet to heavenly spirits bright  
Little inferior: whom my thoughts pursue  
With wonder, and could love, so lively shines  
In them divine resemblance, and such grace  
The hand that formed them on their shape hath pour'd."

MILTON. *P. L.* bk. IV—360.

But few organizations of this mould pass the period of puberty;—the divinity that stirs within them soon frets away the frail, high-



wrought tenement. They sojourn but a brief period; we enjoy their youth as the visitation of an angel—God in them gives us a glimpse of heaven and the guests of his household. But the fairest flowers are the first to fade, and the loveliest natures are the soonest lost to us. “Whom the gods love, die young,” has been a melancholy observation in all ages. They are obnoxious to the slightest exciting causes of disease, and those affections from which the less gifted readily recover soon carry them off notwithstanding the utmost efforts to restore them. The nervous system is prominently implicated, masking and obscuring the true pathological condition, rendering the diagnosis difficult and uncertain, the treatment embarrassing and unsatisfactory in the extreme, and the responses to medication, from peculiar idiosyncrasies, discouraging to the medical attendant. It has long been observed by the most intelligent and experienced physicians, that disease is peculiarly intractable, and the prognosis generally unfavorable, in children of precocious intellect. “The chance for the recovery of such precocious children is, in my opinion,” says Dr. Brigham, “small, when attacked by disease; and several medical men have informed me that their own observations have led them to form the same opinion, and have remarked that in two cases of sickness, if one of the patients was a child of superior and highly cultivated mental powers, and the other one equally sick, but whose mind has not been excited by study, they should feel less confident of the recovery of the former than the latter.” The few that pass the period of childhood are the victims of insanity, or scrofula in some of its protean forms.

Genius is frequently the accompaniment of this organization; and, it may be styled the “poetic temperament”—a state compatible with the highest order of mental powers, the loftiest flights of fancy, the most brilliant creations of the imagination, the most dazzling and gorgeous poetic splendors. Percy, Bysshe, Shelly, the lamented Keats, Pollock, the Brontë sisters, were beings of this order. The daughters of the late Dr. Oliver Davidson of Plattsburgh, New York, were eminent examples of this extreme delicacy of organization and excitability of the nervous system allied to genius. The mother of these two young ladies, Lucretia and Margaret Davidson, who is described as having been a woman of ardent temperament and uncommonly susceptible feelings, transmitted these qualities with double intensity to her daughters.

Lucretia and Margaret died at the respective ages of seventeen and fifteen years; having shown evidences of wonderful talent. Dr. Southey, speaking of the poems of Lucretia in the Quarterly Review, says: "There is enough of originality, enough of aspiration, enough of conscious energy, enough of growing power, to warrant any expectations, however sanguine, which the patrons and the friends and parents of the deceased could have formed." So lively was her appreciation of the beautiful, so exquisite were her susceptibilities, that she would faint while listening to some of the melodies of Moore. The rapture with which those delightful harmonies thrilled her, was quite sufficient to overcome her feeble powers. An anecdote is told of Margaret illustrating the wonderful activity of the child's mind. During a visit to New York, having engaged herself to a private theatrical, she agreed to write a play. Several days had been spent in preparing dresses, scenery, and other accessories, when she was called upon to produce the play, to be put in rehearsal. "Oh! she replied, I have not yet written it. The writing of the play is the easiest part of the preparation; it will be ready before the dresses." And in two days she produced her drama, the "Tragedy of Althea," which, though not very voluminous, contained enough of strong character and astounding incident to furnish a drama of five times its size. Thus, before the age of fifteen, this young girl exhibited a rapidity and power of thought, and ready creative genius worthy of Sheridan himself; who, it is said, would be writing the last act of a play in the green-room at Drury Lane, while the first was being produced on the stage. But consumption soon carried her off as it had done her sister, and as it has done Pollock, the Brontës and so many others of like mould.

The doctrine has been, as Shakespeare inculcated, that "'Tis the mind that makes the body rich;" but this theory may be questioned, and leave the subject open to argument. Lord Byron, speaking of his determination to allow nothing to disturb his recollection of that truly great woman, the celebrated Mrs. Siddons, says: in the preface to the "Doge of Venice," "Siddons and Kemble were the *ideal* of tragic action; I never saw anything at all resembling them even in *person*; for this reason, we shall never again see Coriolanus or Macbeth. When Kean is blamed for want of dignity, we should remember *that it is a grace* and not an art,

and *not to be attained by study.*" Certainly, we cannot counterfeit the signature of nature. Mrs. Siddons was great because her organization was compatible with greatness; the author of "Childe Harold" would have been a poet, if he had been born among the Kamtschatkans. This may savor of *fatalism*—but it is the fatalism of physiology.

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## American and Foreign Intelligence.

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### *An Extraordinary Case.*

We extract the following from a Parisian letter to the "New York World." The case has been referred to by several of the recent medical journals, but in none have we seen so full an account as the one below.—[EDS.]

A fact of considerable interest to medical men has just been reported to the Academy of Medicine by the surgeon of the Hospital St. Eloi, at Montpellier. Professor Buisson, the surgeon in question, states that on the 1st of August, 1858, a man about fifty years of age was brought to the hospital by persons who were not able to give any precise information with regard to him, and the patient himself, being interrogated, gave incoherent responses. It was found, however, that he exhibited none of the signs of paralysis, that he had no fever, or any symptom of an acute disease. Upon examining his eyes, it was ascertained that he was deprived of sight by the existence of a double cataract. The patient could himself give no information as to the time which he had been afflicted, and in answer to all questions continued to give utterly unsatisfactory and incoherent replies. The person who had brought him to the hospital, informed the surgeon that he was in the habit of talking this way, of being continually murmuring to himself, and that he appeared to take no cognizance of what was passing around him. His appearance, and the facts which he was able to gather, satisfied M. Buisson that the unfortunate man was, at the same time, suffering under blindness and dementia. Fifteen days his symptoms were closely observed, and he was, during this time, placed upon a severe regimen, for the purpose of removing the effects of any recent morbid influence. No marked change, however, ensued; he still exhibited the same degree of imbecility, and when spoken to in relation to an operation for his cataract, he exhibited no sign of satisfaction or of hope. In short, he continued to exhibit all the usual symptoms of dementia, and the surgeons



satisfied themselves entirely that this was not the result of the abuse of alcoholic drinks, or that it followed any sudden shock of the nervous system. The patient had been a daily laborer, working upon a farm, and had continued his labor up to the time when the total loss of sight prevented him from working longer.

M. Buisson endeavored to ascertain whether the enfeeblement of the intellectual faculties in the case of this patient had commenced before or simultaneously with his loss of sight. It is a fact well known to medical men that blindness often follows cerebral affections, but in these cases it is of a purely nervous nature; it is *amaurosis*, that is to say, a paralysis of the retina, resulting from the general paralysis. But this was a case of an entirely different nature—the blindness here having a well defined anatomical cause. The patient was afflicted with cataract, which is a physical alteration of the crystalline lens, an affection which does not in the slightest degree depend upon the condition of the brain. With all his exertions, however, M. Buisson was not able to determine whether the blindness had preceded or followed the mental disease.

Such was the condition of this patient when M. Buisson determined to restore his sight by performing the usual operation for cataract, which was done upon both eyes on the 16th of August last. He was placed under the influence of chloroform, and was in such a profound condition of *anæsthesia* that the first stroke of light upon the eye did not even cause a contraction of the pupil. The usual dressings were placed upon the eyes, so that the light should be excluded, and the patient being placed in a straight-jacket, in order to prevent him from touching his eyes, was carried to his bed without exhibiting the slightest knowledge of what had passed; and during the ten days that he was confined in a dark chamber, he gave no sign of intelligence or of any consciousness that he had submitted to any operation whatever. On the tenth day the bandages were carefully removed, and the light gradually permitted to break upon his eyes. For the first time since his admission to the hospital, he gave a sign of intelligence. A smile—silly, but joyous—spreading over his whole face, and he cried, "I see! I see!" These were the first reasonable words to which he had given utterance since he had been in the hospital. Day after day, gradually, he was allowed to have more light, and day by day, as the experiments confirmed the perfect success of the operation for the cataract, they also proved what had not been dreamed of—the return of reason. As his sight became stronger, the patient became more docile. Less contrary and less indifferent to questions put to him, he began to make ready and reasonable replies. Every day marked the return of intelligence. He recognized objects about him, and uttered their names with a childish joy, and reached out his hands to seize them. This new ocular education, however, was not long required. His memory returned to him with a daily appreciable strength, and his intellectual faculties began to exhibit themselves. He demanded an augmentation of his ration, desired to get up, and already began to talk of leaving the hospital. Still, as his sight

grew stronger, his words grew plainer and more consecutive, and his ideas clearer and without incoherence, and the memory of events which occurred prior to his loss of sight began to break upon him. It was impossible, however, to ascertain with any degree of certainty when his mental powers began to fail, or were lost, and all that could be learned of his loss of sight was, that it commenced about three years ago. A month and a half after the entrance of this man, blind and demented, into the hospital, he was at work again, with his vision and his mind restored. The man was completely metamorphosed, not only in the condition of his ideas, but also in his bearing and features, which previously fixed and stupid, were now doubly illumined by the restoration of sight and reason.

These are the details of this extraordinary case, and as they are somewhat long, I will leave all comments and speculations upon them to those of your readers who may be interested in them, simply remarking that they have excited a great deal of curiosity and discussion among the *savans* of the Academy of Medicine. The question which, with the facts before them, they have endeavored to solve is, whether this recovery of reason following the recovery of sight was a simple succession of facts, or whether it has a natural effect. M. Buisson sustains the latter theory with a great deal of vigor, and it is probable that the faculty will be on the look out for other cases of a similar nature, in order to further test the truth of his theory. At any rate, as an isolated fact merely, this case is an extremely interesting one.—*Md. & Va. Med. Jour.*

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### *Directions to Army Surgeons on the Field of Battle.*

The following, taken from Mr. G. J. Guthrie's pamphlet on the Hospital Brigade, we copy from the *Lancet*. Mr. Guthrie was Surgeon-General to the British forces during the Crimean war, and consequently speaks from extensive opportunities of observation :

1. Water being of the utmost importance to wounded men, care should be taken, when before the enemy, not only that the barrels attached to the conveyance-carts are properly filled with good water, but that skins for holding water, or such other means as are commonly used in the country for carrying it, should be procured and duly filled.

2. Bandages or rollers, applied on the field of battle, are, in general, so many things wasted, as they become dirty and stiff, and are usually cut away and destroyed, without having been really useful; they are therefore not forthcoming when required, and would be of no use.

3. Simple gun-shot wounds require nothing more for the first two or three days than the application of a piece of wet or oiled linen, fastened on with a strip of sticking-plaster, or, if possible, kept constantly wet and cold with water. When cold disagrees, warm water should be substituted.

4. Wounds made by swords, sabres, or other sharp cutting instruments, are to be treated principally by position. Thus, a cut down to the bone, across the thick part of the arm, immediately below the shoulder, is to be treated by raising the arm to or above right angle with the body, in which position it is to be retained, however inconvenient it may be. Ligatures may be inserted, but through the skin only. If the throat be cut across in front, any great vessels should be tied, and the oozing stopped by a sponge. After a few hours, when the oozing is arrested, the sponge should be removed, and the head brought down toward the chest, and retained in that position without ligatures; if this is done too soon, the sufferer may possibly be suffocated by the infiltration of blood into the areolar tissue of the parts adjacent.

5. If the cavity of the chest is opened into by a sword or lance, it is of the utmost importance that the wound in the skin should be effectively closed, and this can only be done by sewing it up as a tailor or a lady would sew up a seam, skin only being included; a compress of lint should be applied over the stitches, fastened on by sticking-plaster. The patient is then to be placed on the wounded side, that the lung may fall down, if it can, upon or apply itself to the wounded part, and adhere to it, by which happy and hoped-for accident life will in all probability be preserved. If the lung should be seen protruding in the wound, it should not be returned beyond the level of the ribs, but be covered over by the external parts.

6. It is advisable to encourage previously the discharge of blood from the cavity of the chest, if any have fallen into it; but if the bleeding from within should continue, so as to place the life of the sufferer in danger, the external wound should be closed and events awaited.

7. When it is doubtful whether the bleeding proceeds from the cavity of the chest or from the intercostal artery (a surgical bug-bear,) an incision through the skin and the external intercostal muscle will expose the artery close to the edge of the rib, having the internal intercostal muscle behind it. The vessel thus exposed may be tied, or the end pinched by the forceps, until it ceases to bleed. Tying a string round the ribs is a destructive piece of cruelty, and the plugs, etc., formerly recommended, may be considered as surgical incongruities.

8. A gun-shot wound in the chest cannot close by adhesion, and must remain open. The position of the sufferer should therefore be that which is most comfortable to him. A small hole penetrating the cavity is more dangerous than a large one, and the wound is less dangerous if the ball goes through the body. The wounds should be examined, and enlarged if necessary, in order to remove all extraneous substances, even if they should be seen to stick on the surface of the lungs; the opening should be covered with soft oiled or wet lint—a bandage when agreeable. The ear of the surgeon and the stethoscope are invaluable aids, and ought always



to be in use; indeed, no injury of the chest can be scientifically treated without them.

9. Incised and gun-shot wounds of the abdomen are to be treated in *nearly* a similar manner; the position in both being that which is most agreeable to the patient, the parts being relaxed.

10. In wounds of the bladder, an elastic catheter is generally necessary. If it cannot be passed, an opening should be made in the perinæum for the evacuation of the urine, with as little delay as possible.

11. In gun-shot fractures of the skull, the loose broken pieces of bone, and all extraneous substances, are to be removed as soon as possible, and depressed fractures of bone are to be raised. A deep cut made by a heavy sword through the bone into the brain, generally causes a considerable depression of the inner table of the bone, whilst the outer may appear to be merely divided.

12. An arm is rarely to be amputated, except from the effects of a cannon-shot. The head of the bone is to be sawn off, if necessary. The elbow-joint is to be cut out, if destroyed, and the sufferer, in either case, may have a very useful arm.

13. In a case of gun-shot fracture of the upper arm, in which the bone is much splintered, incisions are to be made for the removal of all the broken pieces which it is feasible to take away; the elbow is to be supported; the forearm is to be treated in a similar manner; the splints used should be solid.

14. The hand is never to be amputated, unless all or nearly all its parts are destroyed. Different bones of it and of the wrist are to be removed when irrecoverably injured, with or without the metacarpal bones and fingers or the thumb; but a thumb and one finger should always be preserved when possible.

15. The head of the thigh-bone should be sawn off when broken by a musket-ball. Amputation at the hip-joint should only be done when the fracture extends some distance into the shaft, or the limb is destroyed by cannon-shot.

16. The knee-joint should be cut out when irrecoverably injured; but the limb is not to be amputated until it cannot be avoided.

17. A gun-shot fracture of the middle of the thigh, attended by great splintering, is a case for amputation. In less difficult cases, the splinters should be removed by incisions, particularly when they can be made on the upper and outer side of the thigh. The limb should be placed on a straight, firm splint. A broken thigh does not admit of much, and sometimes of no extenson, without an unadvisable increase of suffering. An inch or two of shortening in the thigh does not so materially interfere with progression as to make the sufferer regret having escaped amputation.

18. A leg injured below the knee should rarely be amputated in the first instance, unless from the effects of a cannon-shot. The splinters of bone are all to be immediately removed by saw or forceps, after due incisions. The limb should be placed in iron splints.

and hung on a permanent frame, as affording the greatest comfort and probable chance of ultimate success.

19. An ankle-joint is to be cut out, unless the tendons around are too much injured, and so are the tarsal and metatarsal bones and toes. Incisions have hitherto been too little employed in the early treatment of these injuries of the foot for the removal of extraneous substances.

20. A wound of the principal artery of the thigh, in addition to a gun-shot fracture, renders immediate amputation necessary. In *no other part* of the body is amputation to be done in the first instance for such injury. Ligatures are to be placed on the wounded artery; one above, the other below the wound, and events awaited.

21. The occurrence of mortification in any of these cases will be known by the change of color in the skin. It will rarely occur in the upper extremity, but will frequently do so in the lower. When about to take place, the color of the skin of the foot changes from the natural flesh color to a tallowy or mottled white. Amputation should be performed immediately above the fractured part. The mortification is yet local.

22. When this discolorization has not been observed, and the part shrinks, or gangrene has set in with more marked appearances, but yet seems to have *stopped* at the ankle, delay is, perhaps, admissible, but if it should again spread, or its cessation be doubtful, amputation should take place forthwith, although under less favorable circumstances. The mortification is becoming or has become constitutional.

23. Bleeding, to the loss of life, is not a common occurrence in gun-shot wounds, although many do bleed considerably, seldom, however, requiring the application of a tourniquet as a matter of necessity, although frequently as one of precaution.

24. When the great artery of the thigh is wounded, (not torn across,) the bone being *uninjured*, the sufferer will, probably, bleed to death, unless aid be afforded, by making compression above and on the bleeding part. A long, but not broad, stone, tied sharply on with a handkerchief, will often suffice until assistance can be obtained, when both ends of the divided or wounded artery are to be secured by ligatures.

25. The upper end of the great artery of the thigh bleeds scarlet blood; the lower end dark venous-colored blood; and this is not departed from in a case of accidental injury, unless there have been previous disease in the limb. A knowledge of this fact or circumstance, which continues for several days, will prevent a mistake at the moment of injury, and at a subsequent period, if secondary hæmorrhage should occur. In the *upper* extremity both ends of the principal artery bleed scarlet blood, from the free collateral circulation and from the anastomoses in the hand.

26. From this cause, mortification rarely takes place after a wound of the principal artery of the arm or even of the arm-pit. It *frequently* follows a wound of the principal artery in the upper,

middle, or even lower parts of the thigh, rendering amputation necessary.

27. It is a great question, when the bone is *uninjured*, where and at what part the amputation should be performed. Mortification of the foot and leg, from such a wound, is disposed to stop a little below the knee, if it should not destroy the sufferer; and the operation, if done in the first instance, as soon as the tallowy or mottled appearance of the foot is observed, should be done at that part; the wound of the artery and the operation for securing the vessel above and below the wound being left unheeded. By this proceeding, when successful, the knee-joint is saved, whilst an amputation above the middle of the thigh is always very doubtful in its result.

28. When mortification has taken place from any cause, and has been arrested below the knee, and the dead parts show some sign of separation, it is usual to amputate above the knee. By not doing it, but by gradual separating and removing the dead parts, under the use of disinfecting medicaments and fresh air, a good stump may be ultimately made, the knee-joint and life being preserved, which latter is frequently lost, after amputation, under such circumstances.

29. Hospital gangrene, when it unfortunately occurs, should be considered to be contagious and infectious, and is to be treated locally by destructive remedies, such as nitric acid, and the bivouacking and encamping of the remainder of the wounded, if it can be effected, or their removal to the open air.

30. Poultices have been very often applied in gun-shot wounds, from laziness or to cover neglect, and should be used as seldom as possible.

31. Chloroform may be administered in all cases of amputation of the upper extremity and below the knee, and in all minor operations; which cases may also be deferred, without disadvantage, until the more serious operations are performed.

32. Amputation of the upper and middle parts of the thigh are to be done as soon as possible after the receipt of the injury. The administration of chloroform in them, when there is much prostration, is doubtful, and must be attended to, and observed with great care—the question whether it should or should not be administered in such cases being undecided.

33. If the young surgeon should not feel quite equal to the ready performance of the various operations recommended, many of them requiring great anatomical knowledge and manual dexterity, (and it is not to be expected that he should,) he should avail himself of every opportunity which may offer of perfecting his knowledge.

The surgery of the British army should be at the height of the surgery of the metropolis; and the medical officers of that service should recollect that the elevation at which it has arrived has been, on many points, principally due to the labors of their predecessors during the war in the Peninsula. It is expected, then, that they will not only correct any errors into which their predecessors may



have fallen, but excel them by the additions their opportunities will permit them to make in the improvement of the great art and science of surgery.

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*On Epidemic Dysentery.* By Prof. TROUSSEAU.

The year 1859 was remarkable in France for the prevalence of a terrible epidemic of dysentery. While in former years, the affection has been observed only in circumscribed localities, it prevailed during the past year almost universally, Paris, too, which has perhaps been exempted from epidemic dysentery for a century, has had, on the present occasion, to pay a large tribute. Commencing towards the end of July, the epidemic attained its maximum in September, undergoing a notable diminution in intensity towards the end of October. Of all epidemic diseases, dysentery is the most murderous—typhoid fever, cholera, diphtheria, variolæ, and scarlatina being but as child's play compared with it. These affections prevail only accidentally, while dysentery decimates whole populations, returning at certain fixed epochs, as every three years, for example. Desgenettes declared that it killed more soldiers than the enemy's cannon did between the years 1172 and 1815. The etiological circumstances of the invasion of an epidemic may be quite inappreciable. Thus, at Tours, there are two barracks placed in identical hygienic conditions, and yet, during thirty years, it has always been the cavalry barracks in which dysentery has prevailed epidemically. The reputed effects of the excessive use of fruits in generating the disease is very doubtful, seeing that it sometimes rages when fruits are very scarce, as in 1859, while it may not be met with when they were in excessive abundance, as in 1858.

Passing by M. Trousseau's description of the disease, we come to his account of the treatment. His right to speak with some authority upon this point, is derived from the fact of his having witnessed four epidemics of the disease at Tours, Versailles, and Paris, during which the victims were either young and vigorous soldiers, aged men and women, or young children. Moreover, as reporter on Epidemics to the Academy, he has to peruse the accounts of the various epidemics which appear throughout France. Some thirty or forty years since the traditions of the former age were abandoned, Broussais sweeping away the whole of the empirical modes of treatment in favor of his doctrines. In fact, with an inflammation so violent in view, it was then difficult not to give in to them; and the antiphlogistic treatment was put freely into force, and when unsuccessful, this was believed to be because it had not been carried far enough. In 1823 or 1824, however, M. Bretonneau, imbued with the medical doctrines of Stahl and Sydenham, set on foot a re-action against the doctrines of Broussais, by resorting to a substitutive mode of treatment. He gave

an ounce of the sulphate of soda internally, and administered the same dose in a very copious enema, once or twice a day, continuing the practice as long as the stools remain bloody. As soon as they became billious and serous, the sulphate was only given once a day, then every other day, and afterwards at still rarer intervals. In 1828 or 1829, M. Trousseau published an account of an epidemic treated with success in this manner. In 1842, an epidemic occurring in the garrison at Versailles was similarly treated, but with less marked success however, at all events, the military surgeons in attendance—almost all pupils of Broussais—agreed that the sulphate of soda was preferable to blood-letting. Unanimity in favor of neutral salts, of one kind or another, has also nearly prevailed in the reports addressed to the Academy from all parts of France. Frequent failures have undoubtedly occurred, but, in general, when advice is sought early, considerable and extremely rapid success is the result. Induced by the success of the calomel treatment employed by the English at Gibraltar, M. Trousseau has several times put it into force, and frequently with good effect in severe cases of dysentery, occurring, however, sporadically. He still resorts to it when the weather is very hot, but in cold and wet seasons he has found salivation and other ill consequences result from its employment. In children, too, who can only be got to take the sulphate of soda with the greatest difficulty, he prefers giving calomel. Ipecacuanha, which was so much in vogue during the last century, is now seldom employed. Opium is one of the sovereign resources of the *materia medica*, and is perhaps the pharmaceutical substance with which most harm may be effected. It is in incessant use, and is strangely abused, being, in M. Pidoux's happy phrase, the "knout of the therapist." With it every patient who complains or suffers is fustigated. In vain may you try the rational procedures consecrated by usage, and in vain do you appeal to your intelligence and your experience—all goes for nothing—pain is present, and the indication which dominates all others is to assuage such pain, for which opium must be prescribed. With such logic as this we make but a bad business of it, or may engage in a very perilous work. A distribution of opiates with easy compliance is the mark of an impatient and ignorant practitioner. It is a very convenient procedure, and one to which every capacity is competent, which consists in "drying up the intestinal canal" by laudanum in a case of diarrhœa, and in roughly imposing silence upon the symptom pain in a case of dysentery attended with horrible tormina. "I do not pretend to say that, after having put into force the evacuant treatment, that we must never, when the patient is suffering cruelly, temper his pains by a few drops of laudanum, but I entirely object to the practitioner at once drying up the intestinal canal (for this is the aim) in a case of diarrhœa or dysentery. Let him not meddle with opium except with cautious reserve, or he will be the cause of the typhoid symptoms, which will soon make their appearance." After

passing in review the various other means of treatment, to which he does not seem to attach much importance, M. Trousseau adds, that all these means will be of little avail if not adopted prior to the occurrence of important pathological changes. Otherwise, every effort will be paralyzed, and no means will avail against the horrible ravages of an epidemic. In conclusion, above all things, let the condition of the diet be attended to, for this is of vital consequence. Insist that two, three, or even four quantities of soup (*potage*) be taken daily, and prescribe feculent drinks, as barley and rice waters. In all the comparative trials which have been made of treating dysentery by rigorous abstinence, or by allowing aliment in wise moderation, advantage has attended the latter procedure.—*Gaz. des Hôp.*—*Maryland & Virginia Med. Jour.*

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*Contributions to the Natural History of "Insolatio,"* chiefly from the Medical Records of Her Majesty's Forty-Third Light Infantry. By E. H. JANES, M.D.

Perhaps there is no class of persons possessing greater facilities for investigating and describing that singular and fatal affection from protracted exposure to extreme heat, to which the terms *coup-de-soleil*, *sun-fever*, *heat-apoplexy*, and *insolation*, have been applied, than the British Army Surgeon who has been long in active service in India. The second number of *The Madras Quarterly Journal of Medical Sciences* contains two elaborate articles upon the history and nature of this disease; one of which, under the caption at the head of this article, by DR. ALEXANDER BARCLAY, Surgeon Forty-Third Light Infantry, contains the carefully recorded results of a long personal experience in different locations, and under a variety of circumstances. In the literature of the subject we find the disease described under different names, and with such a variety of views with regard to its pathology and treatment, that little is gained by reading, save the conflicting opinions of various authors, describing the same disease by different names, as seen in different localities, under different circumstances, and modified by accidental causes. In order to eliminate that which is accidental, from that which is essential in its symptoms and progress, it is necessary to carefully compare the separate accounts given by independent observers, when we shall find that whatever may be the difference in accidental complications, there is something common to all cases; the writer's observation happily illustrates this idea.

The first cases that came under Dr. B.'s notice occurred in the beginning of the year 1845, on the frontiers of South Africa. "In the glorious climate of that colony such cases are extremely rare, and, as a general rule, long exposure at any period of the day, and at any season, is not attended with the slightest degree of danger."



Several cases, however, occurred, during a lengthened period of service, all of a mild character, no fatal case having been seen or heard of. The patient, previously in perfect health, would fall suddenly in the ranks, in a state of complete insensibility, with contracted pupils, and a frequent wiry pulse, soon restored by the use of cold affusion, and generally recovered without any subsequent serious febrile symptoms. One case is reported to have fallen into a state of "melancholia" soon afterwards, and ultimately committed suicide. A careful autopsy revealed congestion of the meninges, opacity of the arachnoid, and serous effusion under it, and in the ventricles of the brain. These cases all occurred in the open air, in clear weather, and nearly all, early in the day. At the outposts, along the deep valley of the Great Fish river, the thermometer often stands above 100° in a well thatched house, for weeks together, during the day, the nights being cool; but during the three hottest weeks of the season there was not a single case of sun-stroke, though the men of the European detachment were daily employed in a quarry, extracting and preparing stone for the construction of a bridge; showing that "*there*, at all events, heat alone did not seem to be a very powerful exciting cause of disease."

He next saw the disease during the hot weather campaign in Bundelcund in 1858, and instead of being the mild affair hitherto described, it was "a most formidable malady, for a time of every day occurrence, and attended with a very high degree of mortality." The regiment embarked for foreign service in the year 1851 (October), arriving at the Cape of Good Hope in the end of the same year. After being employed in operations of the most arduous character against the Kafir tribes, exposed to every variety of weather, without tents or shelter of any kind, subsisting on very indifferent food, suffering from dysentery, fever and scurvy, they embarked for India in Nov., 1853, arriving at Madras in the beginning of 1854, when the strength was soon raised by addition of volunteers to upwards of twelve hundred men. The only serious sickness that occurred during the next four years was an epidemic of cholera, from which the left wing of the regiment suffered severely; and in December, 1858, they took the field with exactly a thousand strong, of an average height of a fraction under five feet eight inches, robust and well formed, extremely temperate, and in a perfect state of discipline. We shall not attempt to follow, even briefly, their long and weary march northward; suffice it to say that owing to their sanitary precautions, they enjoyed an almost entire immunity from sickness during the greater part of it, and it was after being in the field four months and fifteen days, and a march of nine hundred and sixty-nine miles, that the first case of sun-stroke occurred. "At this time the periodical hot winds were blowing with scarcely any intermission day and night, and the heat of the weather was almost unbearable." The men had lost their robust appearance, their health gradually deteriorated, and cases of "*insolatio*" occurred with increased frequency.

For a long time before the occurrence of the first cases, the men suffered more or less from prickly heat, of a severity in proportion to the amount of perspiration; and the first symptom of the injurious effects of the intense heat was the disappearance of this eruption; the skin becoming rough and scaly, and free from perspiration; followed by increased heat of the surface; constipation; loss of appetite; nausea; urine copious and limpid, with frequent calls to pass it; loss of sleep; tongue rather white posteriorly; pulse frequent, sharp, and rather small; vertigo; all attended with rapid emaciation. These symptoms were looked upon rather as predisposing to the disease than premonitory of it. The men suffering from these symptoms were admitted into the hospital as cases of "*Febris Cont. Com.*," and were treated with perfect rest; cold sponging of the body, cold applications to the head, regulation of the bowels, and the air of the tent kept cool, and moistened by wet "tattoes," etc. Great relief followed the operation of a purgative, which was generally followed by saline diaphoretics, and an occasional opiate at night, if necessary to procure sleep. The cases of "*insolatio*" were generally some of the stoutest and most muscular men in the regiment, many of whom had been at some former time addicted to intemperate habits. The attacks, for the most part, came on when the men were in their tents during the day, though in some instances at night. The patient had generally been lying down, and the attention of his comrades would be arrested by his hurried and heavy breathing; and on attempting to arouse him, he was found to be insensible. Others would start up suddenly, as if endeavoring to escape some imaginary object of terror; and in others an uncontrollable burst of laughter was the only forerunner of insensibility and death, which speedily followed.

In a few rare instances the symptoms came on gradually and some by an unconquerable tendency to sleep, especially after exposure to the sun. When once fully formed, the symptoms of the disease were constant and regular. The patient lay motionless upon his back, breathing rapidly, and as death approached, more and more noisily; eyes fixed, and slightly turned upwards, becoming glassy; pupils greatly contracted; conjunctiva pinky; face invariably pale; surface dry, harsh, and burning to the touch; the heart's action very rapid and sharp; later a frothy mucus, either clear, or of a brown color, was ejected from the mouth and nose. "If the disease did not yield to treatment, the heart's action soon began to fail; the pulse became fluttering; the respiration irregular; and in a period varying from a few minutes to a few hours, death closed the scene. In a large portion of cases, from the commencement of the attack till its termination in death, the patient never moved a limb, or even an eyelid." A few cases were seized from the first with convulsions, beginning in the upper extremities or muscles of the face; and gradually extending over the whole of the voluntary muscles, became of the most violent description.

The number of cases reported for 1858 was one hundred and

eleven, of which forty-four proved fatal, excluding three cases returned under the head of "apoplexia;" neither does the number include those cases in which vertigo, nausea, prostration, and dribbling of urine were present, the effects of heat, yet returned under the head of "Febris Cont. Com.;" the term "Insolatio" being restricted to those cases in which insensibility or convulsions were present. In consulting a table of fatal cases, we find the ages varied from sixteen to thirty-nine; the duration of the disease from five minutes to thirty-two hours. Of those who recovered, according to another table, the ages varied from twenty-four to forty-one; and the duration of the disease from three to forty-seven days. The disease was next seen at Madras, in May, 1860, when three cases occurred in the same day, one of which proved fatal. In these three cases, which are reported at length, the symptoms differed in several important respects. In the fatal case, the post-mortem five hours after death revealed the following condition:—"Body rigid, and of a dark purple color posteriorly. Head—integuments exsanguine; vessels of the dura mater congested; arachnoid opaque; a small quantity of serous effusion under it; vessels on the surface of the brain everywhere intensely congested; substance of the brain natural, very little fluid in the ventricles. In each lateral ventricle there was a tumor the size of a very large green pea, and of pyriform shape, feeling gritty between the fingers, and containing several small deposits of calcareous matter, attached to the choroid plexus. Substance of cerebellum and tuber annulare congested. Thorax—cavities of right side of heart full of dark colored blood, and firm fibrous coagula. Cavities of left side empty. Valves and muscular substance of heart healthy. Both lungs, but especially the right, intensely congested, particularly posteriorly; bleeding freely when cut. Sections of a mottled reddish color. Abdomen—liver enlarged and congested, its upper surface adherent to the diaphragm; spleen rather large, congested, and friable; kidneys healthy." The question now arises: What is the true nature of this disease? Is it simply an affection of the brain from heat applied directly to the head, or apoplexy, or fever, or asphyxia? Those cases described as occurring in South Africa, the author believes to be of a purely nervous character, totally unconnected with blood disease, and uncomplicated with any serious local congestion, caused by the overstimulation of intense heat acting on the surface of the body assisted probably by a bright glare of light on the eyes. Such cases recover with or without treatment, leaving no permanent bad effects. He believes the same condition to form the first link in the chain of diseased action in those occurring in the field, and in quarters in India; but that the more serious nature of the latter cases is due to a greater intensity of the exciting cause, with the occurrence of various complications, and other modifying circumstances. The chief complications are cerebral and pulmonary congestions, especially the latter, as revealed not only by symptoms, but also by post-mortem examination.



The predisposing causes seem to be, 1st. Plethora and unacclimatization : this was noticed throughout the campaign. 2. Debilitating causes of every kind. The men had been exposed to an extreme temperature, long and fatiguing marches, improper and insufficient food for a long time before the first case occurred ; and though strictly temperate at the time, many of the first victims had been at some former time addicted to intemperate habits. 3. The peculiar febrile symptoms described as occurring in the hot season of 1858, caused by the extreme heat, producing the dry harsh state of the skin before mentioned, causing total interruption of its functions, depriving the blood of the cooling process by evaporation from the surface, and leaving the noxious matters usually thrown off by the skin to accumulate in the circulating mass, with no vicarious action from the bowels, they being invariably constipated ; an extra amount of work thus thrown upon the lungs, it is easy to understand why these organs become so often complicated with this disease, to say nothing of the imperfect depuration of the blood in the lungs, from the rarification of the air. 4. Exposure to an atmosphere highly charged with electricity. It was observed that the disease occurred with increased frequency immediately before a thunder-storm ; such was the case on the only day that any cases occurred at Madras. In considering the treatment of this disease, it is well to understand the different ways in which death may take place, which are, 1st. From the affection of the nervous system alone, especially in those sudden, cases occurring during active exertion in the sun, when the exciting cause acts on the surface with the greatest power, the heart's action becomes arrested, and death ensues. 2. With destruction more or less complete of the pulmonary circulation. 3. With cerebral congestion. 4. A subsequent severe febrile attack with serous effusion within the cranium.

Treatment of the first class of cases will be of little avail owing to the early period at which death takes place. Should time permit, we may use the cold douche, keeping the surface wet and exposed to a current of air, or fanned. Exclusion of light as far as possible, and, if practicable, both external and internal stimulants. In the less rapidly fatal cases, there is no doubt that benefit is often derived from treatment, if employed with promptness. The treatment adopted in the field was as follows :—The patient, at once stripped of his outer clothing, was placed in a sitting or semi-recumbent posture, and the cold douche applied from a height of three or four feet over his head, and along his spine and chest, extremities sponged with cold water. In many cases this treatment would suffice, the first symptom of returning consciousness being relaxation of the pupils. In the more obstinate cases the hair was cut short, and a blister applied to the nape of the neck, the surface previously sponged with acetum lyttæ, sinapisms to the extremities, sides and chest, strong purgative enema invariably, and repeated until its effect was produced. To this last, as well as the employment of blisters, the author attaches much value. A few

leeches were in some instances applied to the temples, in order to relieve the congestion evidenced by the state of the eyes; but venesection was not employed in any case. If the breathing became much oppressed, and the bronchial tubes loaded with mucus, great temporary relief followed turning the patient occasionally over on his face. During convalescence, the treatment consisted in regulating the bowels, saline diaphoretics, and small doses of quinine; and if necessary to induce sleep, an opiate at night. This treatment, however, was found not adapted to the convulsive form of the disease before alluded to. In these cases the cold douche could not be employed, from the agony it occasioned. After the failure of the ordinary remedies, the inhalation of chloroform was adopted with highly encouraging results, the convulsion ceasing after a few inspirations, and sleep immediately following. These cases, however, were few, and further observations are required. We shall not attempt to enumerate all the prophylactic directions of this graphic writer, as much has been anticipated in what has been said of the predisposing causes; and many of the means recommended are such as common sense would dictate. A good sanitary condition upon taking the field, a light uniform, with flannel worn under it, a suitable head-dress, proper time for marching, frequent halts, early attention to those who begin to falter, proper location and construction of tents, frequent bathing, and many other sanitary measures which will readily suggest themselves to the inquiring mind of the army surgeon, are strongly insisted upon. While none can doubt that those wholly unaccustomed to alcoholic stimulants are better in the field without them, our author questions the propriety of at once reducing others from their accustomed stimulus to that of tea and coffee; and when used, wine should be substituted for the stronger ones whenever practicable, and the least necessary quantity dispensed. For protection of the head he recommends a wetted towel under the cap, and around the neck and face; but makes no mention of the "havelocks" at present becoming so popular.

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*Letter from Japan.*—Portions of a Letter dated Kanagawa, Japan, April 2, 1861, from FRANCIS HALL Esq., formerly of Elmira, Chemung Co., N. Y., to WM. C. WEY, M.D., of that Village.

[Communicated for the Boston Medical and Surgical Journal.]

A two days' storm cleared up at sunset, with a gale from the northwest, which makes our frail house tremble in every timber, and fills the air with the surf-roar of the adjacent beach. It has been a timely rain, after a long series of warm, sunshiny days, and now the country will present all the freshness and beauty of your middle of May. Flowers are blooming everywhere; the fields of colewort are golden with blossoms, and wheat and barley are a foot high: for the season is an early one here, full two weeks earlier

than a year ago. For a month past we have had the perfection of climate, in contrast the most absolute with the long, tedious, wintry March of the Northern States. I enjoy my walks even more than I did at Elmira, and add thereto horseback excursions of ten, twenty or thirty miles a day. I was reminded of you to-day while I was re-arranging some dried botanical specimens gathered last summer. I recollected when I left home that you had among your shrubbery a *Weigela rosea*, of which you were hoping much, and which you were nursing with great care, near your front door. Some specimens of its blossoms in my hand to-day, reminded me not only of the little shrub in your yard, but of the masses of it which I saw last summer growing wild on the banks of the streams, full of fragrant blossoms. It is indigenous to this country, and everywhere abundant. Side by side with it was the beautiful honeysuckle that we twine about our doors at home, and which is seen running here by every roadside, and among the bushes and trees. So, too, the Wisteria, or Glycine, is as common as the bramble. It is pleasant to see these old favorites growing in such profusion in their native haunts, but I doubt if we prize them as much as our solitary garden specimens, away from their native land and reared with so much care. In my rambles last year, I obtained many wild trees, plants and shrubs, which I think are new, and of which I shall hope, this year, to secure specimens or seeds.

Of late, I have been more content than ever to remain in Japan. Its physical attractions, taken altogether, are hardly surpassed, I imagine. The beauty of the scenery, the productions of the soil, the equability of the climate—all render this a delightful country in which to live. I become daily more familiar with the language and customs of the country, and among the great deal which I find to please, I find little that really wearies or disgusts.

Thus far it has proved extraordinarily healthy to foreign residents. My friend, Dr. S., never has a case of fever, ague, or continued illness of any kind. Inflammatory diseases, diarrhœa, dysentery, etc., are almost as rare—and coughs and colds are novelties. I have now passed through a second winter without a cold, an experience wholly new to me. Although the climate is at times damp, even rheumatism fails to get a hold here. Cutaneous disorders are common, of obscure character, and not yielding readily to treatment. These have been a good deal of a puzzle to the physicians as to their source and character. Native practitioners are as abundant in proportion to the population, as in the most favored parts of the world. The generality of them are ignorant creatures, using a few simple remedies, and drawing largely upon the credulity of their patients, while there are others who profess no inconsiderable skill.

The Dutch at Desima of late years, through their physicians resident there, have given medical instruction to a great many Japanese. I frequently see those who have been either under direct tuition of the Dutch, or who have received instruction from the Japanese thus educated. Dr. Van Siebold has accomplished a



good work in this respect, and his pupils are scattered all over the empire. The consequence of this has been that not only foreign medical remedies but medical books have been largely introduced into this country, and the better class of the native physicians are acquainted with the uses and effects of the more important of the former, and the revelations of the latter. The desire which we so often see manifested among the people to make themselves acquainted with foreign affairs and foreign knowledge, is particularly evident among the young physicians. They contrive to learn the Dutch names of medicines and diseases, and then proceed to make all the inquiries they can. While many of them are content with a mere smattering of names, others are as truly desirous of making themselves proficient. They retain our nomenclature of the *Materia Medica*, for the most part, and you will hear them talk of calomel, rhubarb, senna, laudanum, Hoffman's anodyne, etc. The last is a favorite medicine among them; calomel, too, they use largely, and it is sold as a common remedy in all native drug shops. A young man came to our house one evening, and we observed him several times take a white powder from his pocket, and sprinkling it on some cakes, to eat it. We were of course anxious to know what it was, and finally ascertained it to be *calomel*. He was taking enough to salivate a horse, or a team of horses, for that matter. We told him what the positive effect of the medicine would be, and he threw what he had left into the fire. Santonine they buy largely, having abundant use for vermifuges. In fact, there is not a remedial agent in your drawers and bottles, but what they either know something of already, or are prepared to experiment with. They have their favorite remedies, which they employ liberally. The Dutch, in years past, were in the habit of importing a quackish mixture, which was put up in brilliant style and inscribed in Hebrew and other unknown characters. I think it was called the "Golden Mixture," or some equally sounding epithet. This took the fancy of the people, and it was largely consumed, until they learned the fact that there were such things as *quack medicines*, when it was at once scouted. Indeed, they are now very discerning in relation to quackery; they understand fully what it means, and are not to be so easily caught. Their merchants, even, comprehend that adulterations are practised in the regular trade.

We do not yet know enough of the practice and remedies of the Japanese physicians to be able to say that they have anything of value to communicate to us.

My friend, Dr. S., was recently called to a case of parturition, where a Japanese midwife was also in attendance. She was the wife of a doctor. I have seen her, and she certainly bears the impress of an intelligent woman; and so Dr. S. found her. She was skilled in her profession, and appeared to have a thorough knowledge, anatomically and physiologically, of her calling.

Surgery is a science unknown among the Japanese, even in its most minor operations, if I may be allowed the expression. Amputation they never resort to. A case occurred last fall, in which

a Japanese official was wounded in the arm by a gun-shot. The arm was nearly severed and the bone completely shattered. Drs. S. and H. were, with great reluctance on the part of the authorities, permitted to see the man. They, of course, pronounced amputation not only the best course, but as absolutely necessary to save the patient's life, and proposed to perform it. They were refused, on the plea that, *first*, it would be necessary to obtain permission to such effect from the District Governor; and *secondly*, of the parents of the man, who lived at Nagasaki, seven hundred miles away. The wounded man lingered, as you may suppose, for days and weeks, in the most critical condition, but I understand that he finally recovered, with his arm totally withered, a clog and an incumbrance to him all his life.

I cannot now recall that I have seen a single *cripple*, in the country, from the loss of a limb; and the very few of any description that I have seen, were beggars by the wayside, suffering from some malformations; but even these cases are exceedingly rare. It is one of the pleasant things of our life that we are shocked neither by deformity nor disgusting subjects of disease, as in China.

Japan is not overcrowded with population; it has a climate of a happy medium between hot and cold, and of great equability; and the means of living are easily obtained. Dyspepsia is not uncommon, owing to an exclusive, or nearly exclusive vegetable diet. Pulmonary consumption prevails to a limited extent, and, so far as I can learn, but little fever, rheumatism or ague; in fact, I have not yet ascertained the diseases of which the people *do die*. I think that bowel disorders are frequent, and perhaps fatal. Cholera has raged fearfully, carrying off in Yedo, a few years since, 130,000 in a single season. Delirium tremens, let me say here, is an unknown disease in Japan, where liquor is so abundant and cheap that it forms a part of the daily beverage of nearly every man. The liquor is strongly intoxicating, but it is the pure spirit of the grain, unmixed with noxious drugs.

Cutaneous diseases, as I have said, are very common; not as appalling as in China, but still severe and obstinate to treat. Children with diseased scalps are very plentiful, yet I should say that scrofula was rare, venereal taints having more to do with them, I suspect. Venereal disorders are rife enough, but not so disgustingly obtrusive as I saw them in China, where the malady seems to wear a more malignant type. Effects, visible to the eye, are there seen at every step in the streets; here, only now and then one in a crowd wears the brand of vice and indulgence. The origin of this disease is universally attributed to the Spanish and Portuguese of three hundred years ago, the early navigators of this country. The Japanese, in the treatment of venereal affections, have their own peculiar remedies, but are now using largely from our supplies.

I see a great many blind men, more than I can readily account for, from the prevalence of any eye disorders. The blind are a

very interesting class of population, living on charity as they wander from house to house. They are the shampooers; this is their privileged calling. I meet several of them every day, with long staffs in their hands, feeling their way through the streets; or, at night, I hear them crying their occupation, in a loud voice, as they wander about. They are always well clad and look as if comfortably fed, and never lack a helping hand to lead them in any intricate place. It is said that, at Miaco, they have a general order established, and that all attached to the order receive a yearly amount of alms. This order was founded, as you may have read, by a princely lover who wept his eyes blind for the loss of his mistress; or, as another legend says, by a captive warrior who plucked his eyes out, and gave them to his conqueror, since, whenever he looked at him, he desired to take his life in revenge.

Be that as it may, the blind man in Japan is sure to be well provided for. Many of them are physicians, and are supposed to be particularly skilled in *acupuncture*, which we would suppose would require good eyesight. I happened to call at a house, one day, when a young woman who was ill was undergoing the operation. Acupuncture, like the use of the *moxa*, has a general application for all sorts of diseases. In the case which I witnessed, the patient was complaining of severe headache, pain in the side, and loss of appetite, an affection not strange among women who dwell in the house, take no exercise, and who consume indigestible vegetables. The case appeared to be dyspepsia, more than anything else. The girl lay on the mat floor, covered with a silk quilt, and by her side was a blind physician, with his little case of long needles. He was a grave, venerable-looking old man, and I was much interested in the care with which he seemed to manipulate. His hands were under the coverings of the bed and her garments, but it was all the same to the sightless old man; he moved them slowly and carefully, as if feeling for a proper place, and then, at long intervals, would select a needle and make the puncture. There did not appear to be any pain in the operation, though occasionally the girl winced a little; yet she was regardless of the old man's presence, and sustained her part in general conversation. The doctor was as unmindful of us and of our talking, as though he had been deaf as well as blind, and his whole attention was absorbed in his task.

Moxa burning is universal, and upon every part of the body. The arms, legs, and upon either side of the spine, are the favorite places, and it is not an uncommon occurrence to see a naked coolie with scars of the moxa at regular intervals, in double rows, down the back from shoulders to hip. If a man has a headache, the moxa may go on his back, but quite as likely on his shins; or if he has pain in his leg, the application may be on either temple. It is a question for investigation whether there may not be some virtue in these remedies when properly applied.

Few escape small-pox, and every other man's face is more or less pitted. You may meet a half dozen of children in a single street, presenting different stages of the disease, for those sick with



it are not shut up, only as the necessities of each case call for confinement and care. It is a regulation, however, that children thus affected must wear a red cap to distinguish them. Encountering the malady as much as I did, three months since, I had a mild attack of varioloid, and I assure you I am quite relieved in my feelings.

The distinguishing mark of the Japanese doctor's costume is his head, clean shaven of hair. He feels the pulse and looks at the tongue, like any of the regular fraternity, and, not stinting his medicines, gives pills, potions and draughts, with true allopathic liberality, or half hides his victim under plasters. For all this he exacts no fee; whatever his patient chooses to give him, is his reward. An *ichibu, per diem*, would put him in the highway to fortune.

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### *Touching Lint.*

Liebig, in one of his delightful letters on Chemistry, affirms that the quantity of soap consumed by a nation would be no inaccurate measure whereby to estimate its wealth and civilization. From the consumption of lint we may, with the same certainty, deduce important conclusions respecting the magnitude and severity of a nation's battles. In a letter which appears in another part of this journal, the effect of the American conflict on the trade in lint is touched upon, and some interesting details respecting the various kinds of lint now in the market are given. As the war fever is raging at the present time, and as the demand for lint daily increases, I take the opportunity for saying a few words about this important product.

Lint was formerly prepared from old linen rags by a process which I shall presently describe. The machine-made lint now generally used invariably contains a portion of cotton; and the variety known as cotton-lint—the term is an etymological contradiction—is formed exclusively of this fibre. Flax, which consists of woody fibre, is procured from the inner bark of the stalk of *Linum usitatissimum* by the process of steeping and stripping off the bark. Under the microscope the fibres are readily distinguished from cotton, being round and attenuated to a point at each end. Cotton is composed of the hairs surrounding the seeds of various species of *Gossypium*. These hairs, when dry, exhibit, under the microscope a peculiar twisted appearance. The quality of cotton depends on the length, strength, and firmness of the tissue, or, as it is called, the *staple*. For the preparation of lint, long-stapled cotton at about 10*d.* the pound is required.

Flax lint is more cooling to a wound than that made from cotton, as it conducts heat more readily. For the same reason a linen shirt is cooler than a calico one. Flax lint has other points of superiority; it is much softer in fibre than the cotton fabric, and

its absorbing power is greater. For many purposes, however, cotton-lint may be profitably substituted for the more costly product. Although it is not liked by the surgical profession, most pharmacists use it in unimportant cases. For wrapping round dental instruments and similar purposes, it is nowise inferior to the best flax lint.

Lint made from linen rags is now seldom seen, though many eminent practitioners prefer it to that made by steam-worked machinery. Six years ago the scraped-linen lint was in general use, and a sad outcry was raised against the patent fabric which had then been but recently introduced. The wholesale lint manufacturer of that day looked to the Jews for a supply of linen rags applicable to his purposes. For these rags he generally paid an exorbitant price. To prepare them for the operative lint-maker, who was invariably a female, the seams had to be cut out, and the ragged and threadbare portions removed. The average loss in weight from this operation amounted to nearly twelve per cent. upon ordinary rags, and to about half that on old sheeting and linen of an analogous description. The rags were then washed thoroughly clean, and cut to the width of the linting machine. Before describing the process of linting, I must call attention to the peculiar structure of the article which it produced. If the reader will take a piece of the old-fashioned lint in his hand, he will find, on endeavoring to pull it to pieces, that he can do so with the utmost ease in one direction, but not in another. On examining it in a strong light he will see the reason of this. All the threads which run in one direction are but very slightly frayed or scraped, and remain nearly as strong as when they came from the loom; but the threads which run crosswise are reduced to hairs of infinitesimal thinness—though none are cut through—the rest of their substance being raised into a soft “fluff,” which constitutes the lint. The process by which this result was attained has been thus described by a writer in *Chambers' Journal*, to whom we are indebted for several of the preceding facts:

“On visiting the lint-maker at her work, we find her seated in a lofty attic of a dingy house in a back street not far from the bank of the Thames, where the river runs towards Lime-house. In order to get at her apartment, we have to pass through a series of hanging gardens of damp rags, for the most part less than a foot square in size, and which, having been washed clean, are hung out to dry upon the staircase and landing, the weather being ‘mizzly’ out of doors. From such a manifold demonstration, we conclude that the lint-maker we have come to visit, by introduction of a friend who employs her, if she works for the middleman, works also on her own account, and cultivates a connection. On entering the room, we find her seated in front of the linting machine, a rude and primitive instrument, about the size of the stool of a banker’s clerk, and not a whit more ingenious in its construction. The affair is just the shabbiest of all shabby contrivances for bringing the edge of a sharp blade, about fifteen inches in width, to bear upon a little

platform beneath. There is a kind of treadle worked by the foot, which assists the hands of the manipulator in using the knife. Upon the flat surface of the little platform is stretched the rag, or that portion of it undergoing the operation which has to be linted. A simple contrivance keeps the rag partially strained. As the knife hangs in its frame over the cloth, its edge is parallel with one line of the threads, and, of course, perpendicular to the other line. Several of these machines are at work in the room, and the blades are rising and falling with a dull, thumping, scraping sound, continually. As the blade descends, it cannot much injure the threads whose course is parallel with itself, for obvious reasons; but it would, being very sharp, cut through the others were it allowed to descend with sufficient force. The force of the descent, however, is regulated by the dexterity of the worker, so that it shall only partly sever the cross-threads; and at every fall, while the knife is down, and its edge imbedded in the partly severed threads, the blade is forcibly shifted in the direction of those threads for a certain small space. It is this horizontal shifting of the sharp and heavy blade of the knife upon the strained rag while it is half cut through, which, by disintegrating those threads that cross the blade at the right angle, and raising nine-tenths or more of their entire substance into a soft wooly pile, produces the lint. It is worthy of remark, that the threads which, lying horizontally with the knife, escape serious injury by the process, render an important service by preventing the disintegrated pile from being detached from the surface of the rag by the violent passage of the blade."

The preparation of lint by steam power has been made the subject of several patents since the above description was written. A suitable fabric is now woven expressly for the lint manufacturer in lengths of one hundred yards. This forms the raw material, and takes the place of linen rags. Having been imperfectly bleached, it is sent to the lint-maker, who completes the bleaching, and extracts impurities, consisting chiefly of lime and the bleaching agents left in the texture. The cloth is then stoved and wound on rollers ready for the linting process. In the best machines, the pile or nap is raised upon the cloth by knives making upwards of 500 strokes a minute. The motion of these knives or scrapers is rotary in some machines and vertical in others. The latter motion is stated to be practically the best, as the knives moving vertically beat and soften the cloth upon which they raise the pile. A good machine will produce about eighteen yards or two pounds of lint per hour. The fabric after leaving the machine is passed through the calender and mechanically divided into pounds. It is then rolled and labeled ready for use.

After having compared several specimens of the new lint with the almost obsolete rag-lints, I am at a loss to account for the prejudice which still exists against the former. The machine-made lints possess all the valuable quantities of the older products, are much cheaper, and are sold in regular pieces, which can be cut up without waste. There are certain people who invariably cavil at



all improvements, which they scornfully term "new-fangled notions;" and I cannot help thinking that the objections which have been raised against the machine-made lints proceed from some of these lovers of the past.—*Chemist and Druggist*, May 15, 1861.

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### *Touching Sponges.*

Ordinary sponge is one of those precious common things which largely contribute to the comfort of civilized man. Its uses, which are very numerous, depend on its peculiar flexibility, porosity, elasticity, and compressibility. In the hope of finding another substance with the same properties equally well balanced, we might ransack the three kingdoms of nature in vain. In the attempt to replace this unique product by a manufactured article, we might waste as much time as the alchemists of old wasted in their fruitless researches. And this wonderful substance, for which we shall probably never find or make a substitute, is produced by animals in which we can discover no trace of special organs—animals of so humble a type that it is difficult to draw a line of demarkation between them and the lowest plants.

Every one knows that ordinary sponge is an animal product, and that it is fished up from the bottom of the sea by divers. I have reason to believe, however, that the knowledge possessed by the majority of educated persons touching this familiar substance, is confined to these two facts. Even well-known authors, who are looked up to as scientific oracles, make dreadful blunders when they come to write about sponge. In a popular modern work of reference now before me, I find it gravely stated that sponge is produced by very small marine animals which are called Polypi by naturalists, whereas it is formed by creatures of another type called Protozoa. To enlighten the ignorant, and to dissipate the errors promulgated by book-makers, I will state a few facts, on the authority of Dr. Carpenter, about sponges, and other animals belonging to the same sub-kingdom. I may here mention that the word "sponge" is applied to the complete animal, as well as to its fibrous skeleton with which we are so familiar.

The sponges belong to the lowest class of animals, and before I can hope to make the reader understand their structure, I must describe the lowest member of the class—a creature which may be said to form the first link in the great chain of life which ends with Man. This microscopic protozoon, which is by no means unfrequently to be met with in stagnant waters and vegetable infusions, is known as the *Amæba*. It may be described as a minute semi-fluid mass of *sarcode*, or formative substance, presenting scarcely any evidence of distinct organization, even of the simplest kind. However inert and shapeless this minute body may be when first noticed, its possession of vital activity is soon made apparent by the movements which it executes, and by the changes of form

which it undergoes. The shapeless mass puts forth a finger-like prolongation, which is simply an extension of its gelatinous substance in a certain direction; and a continuation of the same action first distending the prolongation, and then, as it were, carrying the whole body into it, causes the entire mass to change its place. After a short time another prolongation is put forth, either in the same or in some different direction, and the body is again absorbed into it. When the creature, in the course of its progress, meets with a particle capable of affording it nutriment, its gelatinous body spreads itself over and around the precious morsel so as to envelope it completely. The substance thus taken into this extemporized stomach undergoes a sort of digestion, the nutritive material being extracted, and the indigestible part being, as it were, squeezed out of the body. Of the mode of reproduction of the amœba nothing yet is known, save that it undergoes multiplication by self-division, and that portions separated from the mass, either by cutting or tearing, can develop themselves into independent beings. This living speck of jelly, which can get along without legs, and which can convert any portion of its substance into a stomach, may be regarded as the type of the Protozoa.

In the living sponge, the skeleton, usually composed of a fibrous network, strengthened by spicules of mineral matter, is clothed with a soft flesh, which, when examined with a powerful microscope, is found to consist of an aggregation of amœba-like bodies, some of which are furnished with long *cilia* (hair-like appendages), by the agency of which a current of water is kept up through the passages and canals excavated in the substance of the mass. From observations which have been made upon the early development of sponges, it appears that they begin life as solitary amœbæ, and it is only in the midst of aggregations formed by the multiplication of these that the characteristic sponge structure makes its appearance; the formation of spicules being the first indication of such organization. The ciliated cells seem to form the walls of the canals by which the whole fabric of the sponge is traversed. These canals, which are very irregular in their distribution, may be said to commence in the small pores of the surface, and to terminate in large vents; and a current is continually entering at the former and passing forth from the latter during the whole life of the sponge, bringing in alimentary particles and oxygen, and carrying out refuse matter. The skeleton, which gives shape and substance to the mass of sarcodæ particles that constitute the living animal, is composed, in the sponges with which we are most familiar, of an irregular reticulation of fibres. Most sponges are strengthened by calcareous or siliceous spicules, and the variety of forms presented by these bodies is almost endless. In the ordinary sponge, *Spongia officinalis*, the fibrous skeleton is almost entirely destitute of spicules; but in the curious and beautiful *Dictyochalia pumiceus* of Barbadoes, the entire network of fibres is composed of silex, and is so transparent that it looks as if composed of spun glass.

With the exception of those that belong to the genus *Spongilla*,

all known sponges are marine, but they differ very much in habit of growth; some are only found at considerable depths, others live near the surface, and many attach themselves to rocks and shells between the tide-marks. The average depth at which the best Turkey sponges are found is thirty fathoms; those of an inferior quality are found at lesser depths.—*Chemist and Druggist*, Jan., 1861.

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### A Month in a Volunteer Camp.

Surgeon A. B. Crosby, First Regiment New Hampshire Volunteers, writes to the *Boston Medical and Surgical Journal*:

"I had the honor of being appointed Surgeon of the First Regiment N. H. V., on the first of May of the present year, and at once entered upon the discharge of my duties at Concord, N. H., where the regiment was encamped. Under the general direction of Major Seth. Eastman, U. S. A., the mustering officer, I inspected every man in the regiment. The inspection was of course not as rigid as for the regular army. It was only necessary that the recruit should be able to see and hear well, give evidence of sound lungs, show sound hands, and a free use of all his limbs. Hernia was regarded as an insurmountable objection. Between forty and fifty men were rejected under this inspection. As soon as the ceremony of mustering the men into the U. S. service was complete, the whole regiment, in accordance with the army regulations, were vaccinated, although much against the wishes of some of the men. As soon as practicable, I organized a hospital force, consisting of a surgeon's mate, Dr. H. C. Shaw; a hospital steward, Dr. B. F. Eaton; four nurses, two matrons, and a cook. A wooden building was hastily thrown together, sufficiently large to accommodate twenty beds. Near the ridge pole, at each end, a small swing window was provided, and a suitable stove at the centre of the building, thus securing a very perfect ventilation. On the eighth of May, I commenced keeping a hospital register, according to the medical regulations of the U. S. A. From the date above mentioned to the 8th of June—one month—I had received and treated a hundred and twenty-five cases of acute disease. The number of out-patients was also very large during the month. Some mornings, as many as fifty out-patients were prescribed for, and the average of this class of patients was as high as fifteen per day.

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"The first Regiment N. H. V. has undoubtedly suffered more from disease, with one or two exceptions, than any regiment in the field. The encampment at Concord, situated on a dusty sand plain, was particularly unfavorable for the men. They were lodged in wooden barracks, with poor roofs, the weather was raw and much of the time wet, and the hospital was constantly full. The State equipped the regiment with great generosity. Through the kind



co-operation of Governor Goodwin and General Joseph C. Abbott, I was enabled to provide the medical department in a most satisfactory manner. Our medicine chest, hospital stores, etc., were abundant for the campaign, and we were prepared to open a hospital with twenty beds, wherever we might be landed. We were also provided with two ambulances, one for two and one for four horses, the latter so arranged as to carry twenty men at full length, or thirty when sitting erect. On the twenty-fifth of May we left Concord, being obliged to leave twenty men behind us, some of them convalescing from pneumonia, etc., and a few with measles.

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“On Tuesday we marched through Washington and out about two miles from the city, into the park of a gentleman by the name of Fletcher. It is a most beautiful bit of turf, surrounded by fine oak trees, called Kalorama; a Greek word, as I judge, meaning ‘beautiful view.’ My hospital tent, large enough to accommodate twenty patients, was soon pitched, and ten men put to bed. The measles now came thick and heavy; yet, notwithstanding that we had one storm of five days, our cases all did much better than I have usually observed, in my own practice, in private families. I attribute the favorable results in our cases of acute disease to certain hygienic measures which have been scrupulously carried out in all cases. First, every patient has had his whole body sponged over with hot soap-suds once every day; and if suffering from much febrile excitement, twice. Second, all our patients have had the most simple nourishment, properly cooked, and in quantities carefully graduated to their wants. Third, there has been an abundance of fresh air always about the patients, and the beds changed as often as every other day. I had a trench dug around the edges of the hospital tent, six inches deep. At the most depending corner a gutter is dug off for some distance, so that in case of rain the drainage is perfect, and the ground under the canvass remains perfectly dry. The ground is then covered with a layer of dry straw, and our single-bed sacks, filled every time they are used with fresh straw, rest upon this layer. My hospital force is divided, so that one half is on duty twelve hours during the day, and the other half during the night. The patients are thus sure of good nursing both day and night. In case the air is very damp, a little alcohol poured into a shallow pan, and burned in the centre of the tent, dries the air perfectly, and need not be repeated more than once in two hours.

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“On referring to the list of diseases enumerated, it will be seen that fifty-eight, or nearly one-half the cases, were measles, which may be regarded as accidental; yet there remain sixty seven cases of miscellaneous affections—a large number for a regiment of healthy countrymen, only a month in camp. Much, I believe, if not the greater part of this disease has originated from the carelessness of the men themselves, who, in spite of all remonstrances, throw themselves on the damp ground, exercise no care in their diet, however much cautioned, and then wonder that they are sick.

Our men were enlisted from farms and machine-shops mainly, and undoubtedly possess a great deal of strength. They are full of pluck, and, as the saying is, 'just spoiling for a fight;' yet I do not think that it will follow that they will endure the most. At the end of a march of fifteen miles, from Washington to this place, the thermometer being at 90°, twelve men were obliged to go into hospital at once. On the contrary, the New York Ninth, made up of clerks in the city, marched side by side with us the same day, and at the end of the march had only one man to go into hospital, and he sick when they started. I attribute this to the fact that these young New Yorkers are much more in the habit of being on their feet, and walking over the 'magnificent distances' of New York. Instead of this, our New Hampshire farmers hardly ever walk any distance, usually having a comfortable wagon, and do not probably spend half as much time on their feet as city men. Most of the men in the New York Ninth are thin, wiry boys, with not a single extra ounce of adipose to carry, and take splendid care of themselves. In my judgment, the New Hampshire boys, in the trenches or in a charge, would lay the New York boys out; but on a march, the city boys have the advantage.

"The prescriptions for out-patients have been very numerous—not less, on a moderate calculation, than five hundred for the month. The water at Kalorama contained lime and magnesia, so that diarrhœa troubled the troops somewhat; but plenty of bathing, and a diet of scalded milk and burnt bread proved efficient in checking it. On the march, men are inclined to drink a great deal of water, which troubles them very much afterwards. I myself find that a canteen filled with cold tea, without sugar or cream, is the most refreshing drink on a march, if taken in moderate quantities. Those who get whisky into their canteens are sure to go down before a march is over, either from sun-stroke or drunkenness."

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*The Sponge Fisheries of the Bahamas.* By P. L. SIMMONDS.

In our first number, we gave an account of the sponge fishery of the Ottoman Archipelago, from which the finer descriptions of sponge are obtained. The coarser descriptions entering into commerce are procured about the Bahama banks and the coast of Florida. From 1000 to 1500 bales of sponge of 300 lbs. each are shipped from Nassau, New Providence, annually.

Sponge fishing is said to have become a very profitable business in the neighborhood of Key West Florida. About 100,000 lbs. are reported to have been gathered during the last year, and the sales amounted to 25,000 dollars. The article is mostly procured by natives of the Bahamas. This is a new branch of business for Key West, and was formerly confined to the Mediterranean. The finer quality of sponge is not found on the American coasts,

although the coarse description is abundant all about the coast of Florida and the Bahama banks.

The principal supply of West India sponge comes from the Bahama Islands. The rapid strides made in sponging within this group since 1847 appears almost incredible. Although the trade has been carried on for years, a Mr. Hayman was, I am informed, the first who gave it an impetus. About the streets and outskirts of Nassau, New Providence, vast quantities of sponge may be seen covering fences, yards, and housetops, where it is left to dry, after having been previously buried (in order to kill the zoophyte which inhabits it) and washed. It is afterwards divested of the fragments of rock which adhere to it, pressed and packed in bales, averaging 300 lbs. weight each, for the London market, where it is manufactured into cloth, hats, etc., and converted to many useful purposes. The value of sponge in surgery and for domestic uses is well known. Spongio-piline has recently become the medium for applying poultices to wounds instead of cloth.

To show the importance of the sponge trade in the Bahamas, I may add the following statistics, with which I have been favored by a gentleman engaged in shipping large quantities: "From January 1, to June 30, 1850, there were exported from Nassau nearly 1000 bales of sponge, of the value of at least £5 per bale, equal to £5000. On January 1, a very small stock of sponge was on hand, while on June 30, every dealer in this article had a large stock; therefore, as it is a cash article, there must have been paid to the crews employed in this trade at least £8000." The value of the sponge exported from the Bahamas in 1852 was about £12,000.

The sponge trade of the Bahamas is in a very flourishing condition. The total value exported in 1849 was but £2,217; in 1850, £5,700; in 1851, £14,000; in 1852, £11,257. In later years the quantity of sponge exported from the Bahamas has been:

	Cwts.	Value.
1855.....	2,399	£9,615
1856.....	1,800	6,723
1857.....	2,657	11,025
1858.....	3,357	17,258

A great deal of this goes to the United States.

The Andros Islands and the Cays are the great sponging districts. The sponge is usually found in grassy and rocky patches, near the shores of this group. Crawls for cleaning these may be seen from Joulters to Jonas Cays, constructed with stakes about two inches thick, into the mud, and forming a square of twelve feet, sufficiently high to prevent the sponge washing out. In these the sponge is soaked and washed frequently, after having been buried in sand about a week or ten days, when it loses the black animal matter, which has an offensive smell. When first gathered, the pieces are wrenched from the rocks with a strong two-pronged fork fixed to a long pole. The sponges are of four kinds—yellow, glove, velvet and mop. The first is the most valuable kind, selling at



about 1s. the lb.; the second at 9d.; the velvet is the toughest, and much used in stables for its softness; the last kind is very inferior, and only used for mops. At the foregoing prices it scarcely repays the outfit, but 1s. 3d. a pound about remunerate the fishermen.

The imports of sponge from the Bahamas and United States during the past seven years have been as follows, in pounds:

	Bahamas.	United States.
1853.....	91,736	23,774
1854.....	115,213	33,159
1855.....	120,013	14,936
1856.....	79,893	3,271
1857.....	167,051	
1858.....	226,094	7,693
1859.....	207,450	7,234

*Lon. Pharm. Journ. May, 1861, from The Technologist.*

*N. Y. Pathological Society, May 8, 1861.*

#### BRONZE SKIN FROM FATTY LIVER.

Dr. Clark presented a third specimen, which consisted of a suprarrenal capsule, removed from a person who before her death was as markedly bronzed as any person he had seen, a bronzing so much like Addison's disease that he at least had no means of distinguishing between the two. The following history of the case was furnished by the House Physician:

Rose Hughes, married, aged 40, a native of Ireland, was admitted to Bellevue Hospital, April 9th, 1861. She stated that she had been sick for some four or five months, having been first taken with a chill, and then wandering pains throughout the body. She was able to be up and about, however, until about a month previous, when, being unable to pay her rent, the landlord turned her out of her room, and she slept for three weeks on the landing at the head of the stairs, by which she took cold, as her feet swelled considerably. She had some cough now, but had some months previously spit blood for about a week. This was all that could be gained from her, and it should be stated that she was so weak, and seemed so to wander, that implicit reliance cannot be placed upon her statements.

On examination her skin was seen to be bronzed, and she stated that it had not always been so, but could not tell when she first noticed it. Well-marked signs of phthisis were discovered in both lungs, and there was suspicion of pneumonia in the left lung. She was ordered beef tea and some stimulus. She continued for two days without change, but on the third, five or ten minutes after we had made our morning visit to the ward, but had noticed no change, we were summoned to her, and told she was dying. On reaching the ward, we found that she had been assisted to the water-closet, but on reaching it, had fallen prostrate, and had to be carried back

to the bed. We found her rather wild, trying to sit up in bed, refusing to take anything, and calling for the priest. We attempted to give her some stimulus, but she would take nothing, calling for the priest, and as he arrived at once, we requested him to make her take something, which he did, but to no purpose, as she died in about fifteen minutes.

*Post Mortem*, fifteen hours after death.—Body much emaciated. Head not examined. The bronze color extended to the knees, with the exception of a small spot on each side. From the knees to the ankles it was absent, but appeared again on the feet. The lungs were firmly bound down by old adhesions: in the apex of the left was a large tuberculous cavity, and the lung was infiltrated with tubercles: there was also some pneumonia in the lower lobe. The right lung also contained tubercles. The liver was large and fatty, weighing seven pounds. The kidneys were natural in appearance, and there was no disease of the suprarenal capsules.

I had no hesitation in saying that this was a case of tuberculous disease of the suprarenal capsules, and I was very much surprised when it was found that there was none. Then came the question, What produced this peculiar color? On examining the liver it was found to be the seat of fatty degeneration, and the enlargement of such a character as to give place to the kidneys of both sides, by forming deep sulci. The upshot of the case is, that it must be considered an instance of *ephilis hepatica*, consequent probably upon this disease of the liver.

#### INTUS-SUSCEPTION OF INTESTINE.

Dr. Jacobi presented a specimen of intus-susception of the intestine, which had been sent to him, with the following history:

The attending physician was called to see the child on the second day of its sickness, and found it suffering from some pain in the abdomen, with moderate fever, intense tenesmus, and numerous mucous stools, mixed with blood. The diagnosis of dysentery was made, and the usual treatment for that disease was resorted to. The case was visited twenty-four hours subsequently, but the symptoms were unabated, no fecal matter appeared in the stools, although less blood made its appearance. On careful physical examination, a small tumor was detected per rectum, at a distance of two or three inches from the anus. The correct diagnosis was then made, and purgatives were no longer resorted to. An attempt was then made to reduce the vaginated portion by means of inflation, but failed. The prominent symptoms, until death ensued, were about the same as has been stated, with the exception of the vomiting. The invaginated portion of the gut was exhibited, situated about two inches below the lower end of the rectum. The upper portion of the rectum was very hyperæmic.

Dr. Post asked if the physician had considered the expediency of opening the abdomen during life, with a view of reducing the invagination.

Dr. Jacobi did not know of any favorable result following such an operation.

Dr. Post remarked that the operation was considered justifiable when a correct diagnosis had been made.

Dr. Clark asked what were the symptoms that the physician relied upon in making the diagnosis.

Dr. Jacobi had no doubt but that the case had been one of invagination from the first, and that the physician was induced to arrive at the diagnosis from the symptoms of tenesmus, the number of passages mixed with blood, slight pain all over the abdomen, and the non-appearance of any fecal matter in the stools twenty-four hours after the administration of a large purgative.

Dr. Clark remarked that a localized mucous inflammation had been considered by Dr. Swett and himself as a very frequent cause of invagination. The rule as regards the cause, which was more frequently applicable than any other in those cases of invagination unconnected with cerebral disease, was this: a portion of the mucous membrane becomes inflamed, the calibre of the tube becomes enlarged and loses its contractile power in consequence of the paralysis of the muscular coat, and the portion of intestine above, being in a healthy state, drops into the open intestine below. The thought occurred to Dr. Clark, while the case was being recited by Dr. Jacobi, that the occurrence of the invagination might have been caused by the dysentery affecting the rectum in a manner similar to the inflammation of the smaller intestine alluded to.

Dr. Jacobi was convinced that the explanation of the occurrence of the disease was, in a large majority of cases, perfectly true. In this connection he remarked that vomiting in this disease appeared later and disappeared sooner in children than in adults; and referred to one case of a child seven months old, with invagination of the colon, in which the vomiting ceased full two days before death.

Dr. Post did not see how Dr. Jacobi's case, in the absence of vomiting, could have been diagnosed from dysentery.

Dr. Voss asked if polypus of the intestine might not have been a cause of invagination. He had met with two cases in which he was disposed to give this as an explanation of the origin of the trouble.

Dr. Jacobi remarked that he had never seen a case of that description.

#### EXSECTION OF FEMUR.

Dr. Jacobi exhibited a number of small fragments, the remains of the acetabulum and head of the femur of a boy, four years of age, upon whom he had performed the operation of exsection. The child was brought to Dr. Jacobi's clinic, and the history of the case, as given by the father, was,—that the child, about two years before, had fallen from a chair or table, and from that time the usual symptoms of hip disease had shown themselves, and increased



to the last stage of morbus coxarius. About two or three days before the patient first presented, a swelling commenced in the region of the hip joint, and was found to contain pus. This swelling, in the course of the few following days, began to increase and extend itself over the front and lower part of the abdomen of that side, giving rise to considerable constitutional disturbance. An opening was then made into the abscess, when a large quantity of pus and neurotic tissue was discharged. There were left two fistulous openings, one along the crest of the ileum, the other above the symphysis pubis. Finding that the health of the child was rapidly run down, exsection was proposed and performed. What remained of the head of the bone, together with a portion of the neck, was removed, and also the fibro-cartilaginous ring of the acetabulum and the inner portion of the acetabulum itself, to such an extent as to expose the fascia pelvis to the extent of one-quarter of a square inch. It was eighteen days since the operation, and the child was doing remarkably well, and promised speedily to recover.

#### CYANOSIS IN A CHILD.

Dr. J. Lewis Smith presented a heart taken from a child five years old, who had been cyanotic from birth. About two weeks before, the child was attacked with pleuro pneumonia, which resulted fatally. During the continuance of this acute disease, the blue color of the skin became more marked than before. At the autopsy, the mucous membrane of the trachea and bronchial tubes was found injected and thickened. Both lungs were readily inflated, with the exception of a small portion of the inferior lobe on each side. The point of chief interest in connection with this case was the condition of the heart. The septum between the auricles was absent, as was also the case with the septum of the ventricles, with the exception that a narrow band extended across. The patient, during life, virtually had no more than two cavities to the heart.

Dr. Clark remarked: I don't think it is necessary to infer that the blood, in these cases, flows as a mixture. I have several specimens analogous to the one shown. I have also some in which there is an opening in the auricular septum, some in which there is a very large opening in the auricular septum, and also a corresponding one in the ventricular septum, and yet in some of the cases the persons have lived to a considerable age, and have not been invalids. The most remarkable of these cases was that of a German woman, who had earned a comfortable living for herself, and after her marriage for her daughters, by making paper match-boxes. Up to forty years old, her own statement was corroborated by that of her daughter, that she had never suffered from blueness of the face. At forty she was attacked with pneumonia, when she became subject to cyanosis and to frequent attacks of very difficult breathing. In that condition she first came under my observation. In the course of two years after, she died in one of these

attacks of dyspnoea and blueness. On post-mortem examination it was found that there was an opening in the auricular septum fourteen lines in diameter that was congenital. The opening appeared as a circular defect in the walls of the septum, and as the edges were smooth and rough, there was no chance for inferring any recent lesion. The explanation that I gave myself for the considerable degree of health which she enjoyed was this: that as the two horns beat simultaneously, auricles and ventricles, each couple at the same time, both columns were made to maintain their natural course, each serving as a wall for the other. When, however, she got pneumonia, the right side of the heart became more or less obstructed by the difficulty of sending blood through the lungs. Now the venous blood would naturally enough be forced over on the other side. This unequal action being established in the three or four weeks during which she suffered from pneumonia, the proper balance of the two columns was never afterwards gained. It seems possible that a similar condition might exist in such a heart as this. This was the case also in one of the specimens that I referred to just now where a double opening existed, and yet the child lived five years.

Dr. Krackowizer thought that cyanosis was not so much due to mixture of the blood as it was to stagnation of the venous blood in the capillaries from some contraction either in the cavities of the heart or in the arteries by which the blood finds difficulty in being propelled into the lungs. In the specimen presented he noticed that the pulmonary artery is almost a fragmentary branch.

Dr. Jacobi thought that cyanosis was due, in the majority of cases, to congenital incompetency of one of the valves.

Dr. Clark stated that he had several specimens in which cyanosis was a symptom, where nothing abnormal existed, save a deficiency in one or other septum. In such children the blue tint may not be noticed, unless the child cries, and thus distributes the circulation through the lungs.

Dr. Krackowizer remembered a case which Dr. Schilling presented to the society a few years ago of malformation of the heart, where the aorta originated from two roots, each root taking its origin in a separate ventricle, and the pulmonary artery being a branch of this aorta. Besides this, there was some malformation of other branches of the arch of the aorta. During the life of this child, far from there being cyanotic symptoms, the patient was noted for its marble-like skin.

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*Diffusion of Germs, (Panspermia,) Researches upon Spontaneous Generation.*

We recently gave our readers the views of this question entertained by Pouchet; many scientific men have pronounced against the conclusions of this zoologist, and have referred the origin of the vegetable mycodermis obtained by him, where the atmospheric air

was excluded, to microscopic germs floating in the air, and which are so small that they may be introduced into the apparatus, despite the precautions taken to exclude them. According to this theory it is necessary to suppose that the air is full of these germs, therefore Pouchet has undertaken to submit the atmospheric air to microscopic examination. He has not found either germs or spores of infusoria in the dust suspended in the air, but he has found a great number of grains of starch. The air of great cities and other inhabited places, contains many of these starch grains, which, according to him, one might take to be eggs of infusoria, or germs of mycoderms. He has found them among the dust of old cathedrals, and even from dust obtained from Egyptian mummies, and the chambers of the pyramids, as well as among the ruins of Grecian temples. Yet there must be something in the air which has escaped recognition by the microscope, for by causing a quantity of air to pass through a tube containing calcined asbestos, and introducing some of this material into liquids which previously had access only to calcined air, and which consequently contained no trace of vegetation, Pasteur has been able to develop mucédines. We have seen the apparatus of this chemist in use at the *Ecole Normale de Paris*. This apparatus is remarkable for its simplicity and its precision, and it is impossible to object to his conclusions, for they preclude the possibility on the part of nature to continue her creative work in connection with elements purely mineral, or to animate them with the organic influence.

This chemist has already informed us, that, in order that vegetation may be developed, or fermentation produced, there is required a liquid containing water, a salt having ammonia as a base, a carbonaceous substance, and a phosphate; the air is necessary only for the moment while we introduce into the flask some spores of *penicilium*, or a little dust obtained from the air by the process indicated above. The mycodermic vegetation is then developed in less than a day, and, what is particularly remarkable, it is developed in the dark as well as in the light. The ordinary law does not govern these little organisms, for they neither give out oxygen nor absorb free carbonic acid; but on the contrary they disengage carbonic acid, and increase by fixing ammonia and phosphoric acid. The germs which produce these marvellous effects are not uniformly distributed in the air; thus Pasteur, making comparative experiments with one and the same liquid arranged in flasks completely deprived of air, found that the air from the cellars of the Observatory contained only one-tenth part as many germs as the air from the court of that establishment; and that the air contained fewer germs in proportion to its elevation in the atmosphere. This chemist has performed comparative experiments in the mountains of Jura, at an altitude of 800 metres, and in the Alps at Montanvert, (Savoy), at 2,000 metres above the level of the sea; and he has proposed to take the air from a much greater elevation by the aid of a balloon.



These researches present an interesting field to the naturalist. Pasteur has many species in vegetation, new and hitherto unknown. By varying the conditions, it will doubtless be possible to obtain others, as Paul Laurent has already done with the infusoria, in a work of which we shall speak further on. On the occurrence of these researches, Boussingault called attention to a fact pointed out by Bineau, of Lyons, who, while examining a specimen of rain-water, containing nitrates and ammonia in solution, found these materials disappearing under the influence of cryptogamic vegetation. In reference to this great question of the assimilation of nitrogen, we would refer the reader, who wishes to understand it thoroughly, to the valuable work of Boussingault, just published, entitled, "*Agronomie, Chimie Agricole et Physiologie*."

In order that plants may be developed in meteoric waters, these waters should be found in the condition of Pasteur's liquids. It is known that rain-water contains assimilable nitrogen and also salts of potash, soda, lime, etc., but it has heretofore lacked the indispensable element, phosphoric acid, which had never been detected in rain-water. This chasm in the series of fertilizing principles of meteoric waters has at length been filled by Barral, who has discovered phosphates in rain-water. To avoid all sources of error, this chemist has experimented entirely with an apparatus of platinum. In the residue of evaporation he has obtained the phosphorus in the condition of phosphoric acid, as phosphate of bismuth, (Chancel's process,) and as the ammoniaco-magnesian phosphate. He has thus found a quantity of phosphoric acid, varying from .05 to .09 of a milligram to a litre of rain-water ( $= 0.0005$  to  $0.0009$  gram.)

From these results it may be calculated that the rain-water of an ordinary shower furnishes about 400 grams of phosphoric acid to the French *hectare* or ( $2\frac{1}{2}$  English acres.) Now since the researches of Boussingault have proved that a hectolitre ( $2\frac{3}{4}$  bushels) of wheat takes from the soil about one kilogram of phosphoric acid, we see that to obtain seven or eight hectolitres of wheat to the French *hectare*, which corresponds to a harvest without the use of manure, it would be necessary to let the field repose for twenty years, if the soil did not previously contain a trace of phosphates. Barral in 1850 to 1852, made researches upon rain-water to detect the presence of phosphoric acid in the residue of evaporation; the udometers and other vessels of platinum employed in the present investigations were constructed at the expense of the Academie des Sciences.—*Silliman's Journal*, March, 1861.

**THE HOT SPRINGS OF ARKANSAS.**—Of the Hot Springs, there are some fifty-four distinctly recognizable, besides a considerable number in the bed of the creek. With one exception, their temperature ranges from 120° to 148° of Fah., and their composition is nearly the same. The exception is a warm spring (temperature 100°) discovered a year ago on the bank of the creek beneath the others. It has a strong odor and taste of sulphur, and is believed to have considerable virtues.

The quantity of water discharged by the various hot springs is estimated at 350 gallons per minute (one spring affording sixty gallons,) or, say about 500,000 gallons per diem.

The analysis of the water is as follows (by Prof. Owen, State Geologist, Arkansas : )

1½ (one and a half) gallons of water contain—

Of silica, with sulphate of lime . . . . .	1.04 grains.
Carb. of lime, 1.68, and bi-carb. of lime . . . . .	2.04 “
Carbonate of magnesia . . . . .	0.326 “
Bi-carb. of magnesia . . . . .	0.05 “
Sulph. of lime, dissolved in water . . . . .	0.35 “
Chloride of potassium . . . . .	0.05 “
Chloride of sodium . . . . .	2.18 “
Oxide of iron, with a little alumina . . . . .	0.133 “
Dry powder (in solution) . . . . .	1.16 “

The average attendance of visitors this spring and summer has been about four hundred, chiefly of persons afflicted with rheumatism, neuralgia, paralysis, dyspepsia, mercurial affections and syphilis. Rheumatism is the most frequent of these.

The baths are taken according to the custom of the place, without immediate medical supervision. Small wooden bath-houses are fitted over the creek, and close to the precipitous edge of the hill. Wooden reservoirs retain the water, which they receive through wooden troughs, until it is sufficiently cooled to be borne: it is then dropped in a stream of about an inch in diameter, from a height of nine or ten feet, upon the affected part, or the body generally (the time, according to the patient's power of endurance,) and is received into a large wooded tub used for the plunge bath. A small chamber adjoining receives the steam from the constant flow of water, through wooden strips on which he stands, and drinking copious draughts of “hot and hot” in the meanwhile; the patient endures the vapor for five or ten minutes without any apparatus for breathing of fresh air, an occasional protrusion of the nose at the door being necessary; after which, more drinking of “hot and hot,” and to bed, to sweat profusely under blankets from half an hour to two. This, once or twice a day, and the frequent drinking fresh hot during the day, other medicines being laid aside. This is what custom prescribes.

A. J. WRIGHT, Esq.

[N. O. Med. & Surg. Jour.—Boston Med. Jour.

## Bibliographical Notices and Reviews.

*A Manual of Military Surgery, or hints at the Emergencies of Field, Camp and Hospital Practice.* By SAMUEL D. GROSS, M.D., Professor of Surgery.

*Hand-Book for the Military Surgeon, being a compendium of the duties of the Medical Officer in the Field, etc., etc.* War Surgery, including Gunshot Wounds, Amputation, Wounds of the Chest, Abdomen, Arteries, and Head; and the use of Chloroform. By CHARLES S. TRIPLER, A.M., M.D., Surgeon U. S. Army; and G. C. BLACKMAN, M.D., F.R.M.S., Professor of Surgery in Ohio Medical College, etc., etc.

These volumes agree in several things—very nearly in size, both being small; the former less than two hundred duodecimo pages; the latter less than one hundred and fifty.

The occasion of these volumes is our present civil war. Knowing that a very large number of surgeons would be required for the two great armies, our Philadelphia and Cincinnati friends have exerted themselves in a very praise-worthy manner to get up hand-books for the emergency.

The substance of the little volume of Prof. Gross, was at first designed as an essay for his medical journal, North American Medical Chirurgical Review. It occurred subsequently to the author, that if published separately, it might be of service as a manual to those just now entering the service as military surgeons.

Feeling also at the present time the necessity of a hand-book on the duties, etc., of the surgeon, the publishers, R. Clark & Co., Cincinnati, applied to Dr. Chas. S. Tripler, U. S. A., for the liberty of publishing a series of lectures delivered by that gentleman for the last three years in the Ohio Medical College. This the Doctor consented to. The publishers requested also Prof. Blackman to supply the material for the Chapters on Wounds of the Head, Abdomen, and Arteries. A Chapter on the use of Chloroform has been added from the valuable work of McCleod on the Crimean War.

These works, as before remarked, have been got up to supply a supposed want of something of the kind just now. That they will prove to be of any material service is a matter to be decided by



those for whose special benefit they have been prepared. Both of them are very cleverly written; but they both, in scope, presume the existence of a degree of ignorance on the part of the surgeons recently appointed that we are inclined to doubt. We find in Dr. Gross' volume also quite a proportion of matter, scarcely, to say the least of it, necessary in a hand-book. A single extract from the "Manual" will serve as an illustration:

"It is not my purpose to point out the qualities which constitute a good nurse. It will suffice to say that she should be keenly alive to her duties, and perform them however menial or distasteful with promptness and alacrity. She must be *tidy in her appearance*, with a *cheerful countenance*, light in her step, noiseless, tender and thoughtful in her manners, perfect mistress of her feelings, healthy, able to bear fatigue, and at least twenty-two years of age. Neither the CRINOLINE nor the SILK dress must enter into her wardrobe."

The italics are ours. They point out, of course, the more important of the pre-requisites of a female nurse. If there is a new edition of the work called for, we would suggest to the learned author the insertion of another pre-requisite: the nurse should be *handsome, pretty* if you please. This quality is agreeable all the time, and the wonder is that the author should have omitted its recommendation.

We have in this little volume also some advice that will strike those for whom it is intended as very flattering to their intelligence. Here it is:

"In regard to *medicines*, a few articles only well selected and arranged for ready use will be necessary. It is bad enough in all conscience for a man to be severely shot or stabbed without physicking him to death. Let him by all means have a chance for his life, especially when he has already been prostrated by hemorrhage and shock. Food and drink, with opium and fresh air, will then do him more good than any thing else."

Here is a singular jumbling together of the *materia medica*, humanitarianism, and flings against the profession. We join in cordially with the "humanitarian" recommendation. "Let the poor soldier, by all means, have a chance for his life" we say from the bottom of our heart. Don't physic him to death either, please don't, Mr. army surgeon.

Again: "The use of *heroic medicines*, or of any medicines in *large doses* in these diseases, (fever, dysentery, etc.,) cannot be too severely reprobated. More men, there is reason to believe, have been killed in this manner in the armies and navies of the world, than by the sword and cannon. Let medicines then be administered sparingly."

What! has the author turned Homœopathist? He has certainly never taught the students of Jefferson Medical College that there are such things as "*heroic*" doses of medicine; or even "*big*" or "*little*" doses. If he has we pity the poor soldier placed under their charge. A dose of medicine, it has been supposed, is made a dose, not by its quantity or quality, but by the *nature of the case*. "*Mild*" and "*heroic*" are terms that apply as poorly to drugs as to virtue or truth. A medicine, we repeat, is a medicine because it is made so by the character of the case, and by this alone.

Just at this time, there is a morbid conservatism in regard to the use of drugs all over the country; and it is as obvious in the lowest ranks of the profession as among those who have presumed to direct the public mind. More people, it might be retorted, are now, in all probability, perishing from the want of drugs than from the "sword and cannon." In many neighborhoods, one-third of the population get no medicine at all when sick, because of false doctrines; while every where the physician finds himself embarrassed and mortified with the remark—"well, I don't believe much in medicine."

In the treatment of dysentery, the author cites the practice of English physicians in India, who, during the late rebellion there, employed *venesection*, mercury, opium, leeches, etc., and on this treatment remarks:

"Such treatment seems altogether frightful to the modern American practitioner—it strikes him as unnecessarily harsh, and as well calculated to augment the mortality of the disease. We might, in this country, perhaps, bleed, and that pretty freely, at the very commencement of an attack of dysentery; at all events, leach very copiously. \* \* \* \* And as to giving mercury with a view to pyalism, however slight, few men would, I presume, be so fool-hardy."

Saying nothing of the *ad captandum* flings here and elsewhere in this little book, we are amazed at the presumption of the author, who condemns the practice of the physicians of India in a disease about which, experimentally, he knows nothing. The author, too, makes his condemnation the basis for treatment of the disease (dysentery) in our climate. He is, however, not consistent with himself. We find, for example, the following on the treatment of pulmonary hemorrhage from gunshot and other wounds of the chest:

"The main reliance for arresting pulmonary bleeding is upon *venesection*, copious and frequently repeated, unless the exhaustion amounts to absolute collapse."

This is a mere mechanical transfer of practice from old volumes to the work before us, a practice, too, which never had any very clear therapeutical ideas for its foundation. Indeed, it is very difficult to give a reason for the practice now, unless homœopathy be invoked—"like cures like."

In these internal hemorrhages, (pulmonary, abdominal, or cranial), how are we to know whether there is much or little hemorrhage, except by exhaustion? and, of course, when this occurs blood-letting is contra-indicated. Blood-letting, then, is no remedy in internal hemorrhage.

The contents of the work embrace—

1. Historical Sketch of Military Surgery.
2. Importance of Military Surgery.
3. Qualifications and Duties of Military Surgeons.
4. Medical Equipments—Stores and Hospitals.
5. Wounds and other Injuries.
6. Amputations and Re-sections.
7. Ill Consequences of Wounds and Operations.
8. Injuries of Head, Chest, and Abdomen.
9. Diseases Incident to Troops.
10. Military Hygiene.
11. Disqualifying Diseases.
12. Feigned Diseases
13. Medical, and Surgical, and Dietetical Formula.

The volume of Drs. Tripler and Blackman contains a large amount of matter that will interest the general medical reader, as well as our young surgeons that have just taken the field. The matter is condensed too much, but still it is very well expressed.

We have the following chapters—

1. Duties of the Medical Officer.
2. Military Hygiene.
3. Camp Dysentery.
4. Of the General History, Character, and Treatment of Gun-shot Wounds.
5. Amputations.
6. Wounds of the Chest.
7. Wounds of the Abdomen.
8. Wounds of the Head.
9. Wounds of the Arteries.
10. On the Use of Chloroform.



The foundation of military like that of civil surgery, is a knowledge of anatomy—surgical anatomy, regional anatomy. Unless the young surgeon appreciates this fact fully he will be of but little service. It is only, indeed, from a knowledge of the anatomy of a region that either a sensible diagnosis or prognosis can be made. Stromeyer refers to a case where the head of the *fibula* and metatarsal bone were cut upon for a ball. We should think well, therefore, if the war is to continue, of some one getting up a manual on *Surgical Anatomy*.

The chapter on the use of chloroform, (from *Macleod's Notes on the Surgery of the War in the Crimea*), seems very favorable. It is there stated that on being employed thirty thousand times, no fatal accident followed. We fear that this statement is too good to be true. Certainly civil practice warrants no such conclusion. The French made less use of chloroform in the Crimea than the English, because they believe less in its safety.

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*A Treatise on the Practice of Medicine.* By EDWARD R. MAXSON, M.D., formerly Lecturer on the Institutes and Practice of Medicine. Philadelphia: Lindsay & Blakiston. 1861.

This volume is a home production, the work of a Geneva (New York, we suppose,) physician. It has as its foundation a course of lectures delivered in the Geneva Medical College. It has been prepared, as the author states, at the instance of the members of the medical class.

To make the work more acceptable to those practitioners who have not time to review anatomy and physiology, the author has glanced at these departments, by giving a description of each organ before discussing the diseases peculiar to it.

We are told in the preface that—

“The work has been drawn up without even the shadow of empiricism, by taking the human system in health as the standard; and then noting the deviations from that standard constituting the various morbid conditions or diseases. By taking this course, I have been enabled to arrive at clear indications of treatment from direct pathological conditions.”

We are told that this course by no means precludes the benefit of *experience* in the use of medicine, as those indicated by pathological conditions are always those which experience finds the most successful.

The author includes among remedies, the preparations of Tilden & Co., and others of similar character, now coming into general use.

We have sketched this volume pretty closely, but noticed nothing to either praise or criticise on treatment. It differs, in this respect, but little from late works by other authors. The theory of disease, that it is a mere departure from the physiological standard, the author adopts from the gentlemen of homœopathic proclivities, though, unlike them, he does not allow it to influence his therapeutics.

We are not very certain that the plan of giving an anatomical description of organs, before describing their diseases, possesses any merit. To a practitioner of any just pretensions, it would seem to be unnecessary, for, if rusty, he has at his elbow the proper resource; while to the mere beginner, the complication would be the objection.

The *matter* of this work is respectable. The author has both lectured and practiced, and it is therefore to be presumed that he would furnish a pretty decent work. This he has done, if it be judged by the quality of the matter. We do not, however, wish to be understood as endorsing all or any of the speculations in which he has indulged.

Of the *style*, we cannot say much that is favorable. The author at times shows carelessness, want of cultivation, rudeness. If a new edition of the work before us should be called for, we shall hope to see the author mend his ways a little in things literary.

Dr. Maxson, we regard it, deserves credit for his industry. If he had expended himself, however, upon some single disease, he would have been fully as useful to his age and generation.

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*Camplin on Diabetis.* From the Second London Edition.  
New York: S. S. & Wm. Wood. 1861.

This monograph was originally published in the Transactions of the Royal Medical and Chirurgical Society, but owing to the limited circulation of the Transactions, the author, in 1858, issued it in a separate form. The copy before us is a second edition, to which is appended foot notes, chiefly referring to the progress of physiological research as connected with the phenomena of diabetis.

The author himself labored under the disease for some time, and

in the paper before us he details his case at length, and his method of treatment which proved to be *a success*. A result so uncommon excited no little inquiry in the profession, and as a consequence the author, from the wish of the profession, has been induced to give it publicity. Besides, however, his own case, the author embraces the occasion to discuss the disease in all of its phases.

The pathology of Diabetis has been a very prolific subject of thought for a long time. Prout supposed the stomach and primæ viæ was the part of the system in which the change of amylaceous matters into sugar takes place. This view had currency until the striking experiments of M. Bernard induced the belief that the formation of sugar is, in all cases, due solely to the liver. The more recent experiments of M. Brown Sequard go, however, to show that in the normal state starch is, to a certain extent, converted into sugar in the stomach; and that this power may be greatly increased in the diabetic, and thus be the reverse of that which we observe in some forms of dyspepsia, in which every thing capable of such a change becomes intensely acid.

This subject has also been lately investigated with great care by Pavy, and the details of his experiments have been published in the Guy Hospital Reports. They are briefly as follows:

"The liver, during life, produces no sugar but only the substance named by Bernard, *glucogen*, but which Dr. Pavy prefers to call *hepatine*, as it is only under peculiar circumstances in the living subject and after death that it becomes sugar.

"In the normal state, during life, no sugar or a mere trace (say .047 per cent.) is to be found in the blood of the right side of the heart, not even in dogs fed on vegetable diet.

"The sugar found in the liver and blood of animals, after death, is a post mortem change of the hepatine.

"In dogs fed on vegetables only the liver undergoes great changes, the most remarkable are its increase to double the size and its producing double the amount of hepatine.

"In dogs fed on tripe, with a mixture of sugar, ( $\frac{1}{4}$  lb. per diem) the liver becomes nearly as much enlarged as under the purely vegetable diet.

"The size of the liver compared with the weight of the animal kept on

Animal diet as 1 to 30.

Vegetable diet as 1 to 15.

Tripe and sugar as 1 to 16 $\frac{1}{2}$ .

"The cane sugar administered appeared as grape sugar in urine.

"Hepatine is not naturally formed for the purpose of transformation into sugar.



"Hepatine possibly exists during life in a state of combination which enables it to resist transformation into sugar."

Any plan of treating diabetis can only be successful in an occasional case. We see nothing in the paper before us that is new on this branch of the subject. Dr. C. cured himself by the adoption as diet of *bran cakes*, eggs, fat meats, greens, avoiding at the same time all articles containing starch or sugar.

We have never seen a well marked case of the disease cured, and hence we read the paper before us with great interest.

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*A Hand-Book of Hospital Practice; or, an introduction to the Practical Study of Medicine at the bedside.* By ROBERT D. LYONS. K.C.C., M.B.T.C.D., etc., Physician to Jervis Street Hospital, Dublin; Professor of Practice of Medicine and Pathology in the Catholic University, Ireland; Professor to the Royal Dublin Society, etc. New York, 1861: S. S. & Wm. Wood, 389 Broadway—pp. 185. For sale in the city.

This book of one hundred and eighty-five pages embraces matters invaluable to students, or those, even, about to assume the practical duties of the profession. We have here presented a simple methodized plan of Clinical Observation, combined in a convenient form with brief, but explicit instructions as to the best mode of procedure for investigating any given case, arriving at a diagnosis and recording its history, symptoms, treatment, daily progress and termination. The book also contains in a condensed, yet intelligible and readily accessible form, a compendium of the preliminary knowledge most essential for rightly interpreting and using the information thus acquired and recorded by the student. Few clinical teachers are not sensible of the loss of time to themselves and the class, entailed by the want of the requisite elementary knowledge on the part of many students, to enable them to profit by what they see and hear at the bedside.

We commend this work heartily, not merely to students but to the profession. Those advanced in years and experience will find themselves, on consulting it, not only in pleasant moods, but gradually yielding themselves up to a burnishing process—complete.

## Editorial and Miscellaneous.

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APOLGY.—We owe an apology to our subscribers for the tardiness of the present number. The distracted state of the country has had its influence in diverting us, as well as others, from the prescribed routine of thought. A little while ago we could read with some pleasure the dryest details of science, or spend an hour or two with the microscope in watching the movements of an infusory animalcule. Now systematized thought is out of the question. One moment the mind is occupied with the unconscious logic necessary to a prescription; the next it is stirred to excitement with the horrors of some battle that has just been fought.

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OUR EXCHANGES.—A very large proportion of our Exchanges have of late failed to make their appearance. Among them we especially enumerate the Charleston Med. Jour., S. C.; Oglethorp Med. Jour., Ga.; Southern Med. & Surg. Jour., Ga.; North Carolina Med. & Surg. Jour.; Nashville Med. & Surg. Jour., Tenn.; New Orleans Med. News; Virginia Med. Jour.

It is no small privation to do without these old visitors, always so welcome as co-laborers in the medical vineyard.

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PROF. MEIGS.—This distinguished gentleman so long connected with *Jefferson Medical College*, has resigned the Chair of Obstetrics, Diseases of Women and Children, etc., and retired to his country residence, some twenty miles from Philadelphia.

Few teachers of Medicine have had the fortune to enjoy the reputation of Prof. M. Without being what is usually called an elegant or accomplished lecturer, he was one of the most popular that has ever been in the country. Always there was a rush of students to his room at his hour of lecturing. They seemed not only devotedly attached to the man, but they liked his method of instruction. His method it would be very difficult to define. He

took no one as a model; he attempted to follow no particular style; from, indeed, any thing like the mechanical, his was the farthest possible removed. Full of the inspirations of nature, he was animated, amusing, instructive, eloquent. He made his points well, and elaborated them with the skill of a genius.

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**GUNSHOT WOUNDS.**—This subject is interesting to the American Surgeon. We simply enumerate a few striking facts.

A wound from a rifle ball is usually more depressed and discolored at the entrance than exit, the hole in the soft parts less in diameter than the ball; the contusion takes the form of several concentric circles, the parts involved sloughing out successively.

If the speed of a ball is great, it is very difficult to distinguish between entrance and exit.

Conical balls are seldom deflected; striking a bone they pass through it taking the shortest course; their wounds are more irregular from the fact that they often receive their impulse in the direction of a diameter not parallel to the piece, and hence the side often strikes first instead of the end.

It is said that a 32-pound ball will pass through 70 men; an 8-pound ball, 40; a one ounce ball, 4.

It has been calculated that of all gunshot wounds received in battle, there will be two in the abdomen; four in the neck or the breast; seven in the head; ten in the arms; four in the hips or legs; one in the knee, and two in the feet. Nerves and blood vessels very fortunately generally escape injury.

The sensation from a gunshot wound resembles, it is said, a smart blow from a cane. Very many, however, of the worst of wounds are unattended with the least consciousness of injury. A soldier that had both legs shot away thought he had stepped in a hole.

In field-works the proportion of the killed to wounded is greater than in the open field, from the circumstance of breast and head being more exposed in the former than in the latter position.

More men, or a larger portion of armies, were slain in battle in old times than at the present day, notwithstanding our improvements in fire-arms.

When the losses reach 33 per cent. the battle is ended. They are said to seldom reach this figure, never going beyond it.



NOTICE TO SUBSCRIBERS.—With this number we send out bills to delinquent subscribers. We expect these to receive the proper attention. To those who are in arrears, it is scarcely necessary to say, if they do not pay their accounts, we, ourselves, will have it to do. *The printer must be paid.* He is an ox that won't be muzzled.

To those of our subscribers who have been prompt, we return our thanks.

Those who have received the JOURNAL for years, and then quibbled about paying for it, may consider themselves *forgiven* by US!

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FIFTEENTH SESSION OF STARLING MEDICAL COLLEGE.—We call attention to the advertisement in the present number for the ensuing session of the Starling Medical College. This institution possesses now all of the facilities for instruction in every branch of medicine. We invite an examination from preceptors and students of our means for imparting a medical education.

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THE NEW SANITARY COMMISSION FOR THE ARMY.—Within the past few weeks a sanitary commission, consisting of Henry W. Bellows, of New York, President; Prof. A. D. Bache, of Washington, Vice President; Elisha Harris, M.D., of New York, Corresponding Secretary; Geo. W. Cullum, U. S. A., Washington; Alexander E. Shiras, U. S. A., Washington; Robert C. Wood, M.D., U. S. A., Washington; Wm. H. Van Buren, M.D., New York; Wolcott Gibbs, M.D., New York; Samuel G. Howe, M.D., Boston; Cornelius R. Agnew, M.D., New York; J. S. Newberry, M.D., Cleveland; George T. Strong, New York; and Frederick Law Olmsted, New York, has been organized at Washington, D. C.

This Commission, on the suggestion of the Medical Bureau, was appointed by the War Department. It "is vested with full authority to examine and inspect all posts, camps, and hospitals." It is designed, also, to look to the food, water, clothing, tents, nurses, etc.

This work, if properly attended to, will save a great number of valuable lives, besides relieving the soldier's life of much that is extremely unpleasant.

There are some things about this commission that we don't just exactly understand. It has been appointed by the War Department, and invested by the Surgeon General with its powers, but still no provision made for remuneration, not even for the expenses of the committee while traveling or when in session. The committee, as a necessity, therefore appeal to the liberality of the people for contributions to meet expenses, etc., and have named Geo. T. Strong, No. 8, Wall st., N. Y., as Treasurer.

Of the above committee *seven* are from N. York; *four* from Washington; *one* from Boston; *one* from Ohio, (Cleveland.)

As this committee must necessarily have charge of our whole country—all of the localities east, west, north and south—would it not have been well to have selected the members with reference to their experience in the endemic diseases of each great division? Camp fever, or camp dysentery, or any disease resulting from *crowd poison*, is very far from embracing all against which the soldier should be protected. The diseases of certain districts, although in themselves not so immediately fatal, nevertheless waste vital resistance very rapidly, and thus predispose to those that are fatal.

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### *Necrological Notices.*

DR. THOMAS LAWSON, Surgeon-General of the United States Army, recently died at Old Point Comfort at an advanced age.

PROF. M. D. REESE died May 13th, at New York, of disease of the heart. At the time of his death, he was Professor of Medicine in the Medical College of New York, and Editor of the *American Medical Gazette*.

Dr. Reese graduated at the University of Maryland, 1819, and settled in practice in Baltimore. He was afterwards Professor of the Institutes of Medicine and Surgery and Medical Jurisprudence in the Washington University, Baltimore, and subsequently held professorships in Albany Medical College, N. Y., and the Castleton Medical College, Vermont.

Dr. Rees was widely known as a ready, vigorous writer. Few men seemed more careful of the interests and integrity of the Profession. Perhaps his apparent censoriousness, as a writer, may be due to this circumstance.

DEATH OF DR. WM. JUDKINS.—It was our fortune to enjoy but a limited acquaintance with the deceased. What, however, we knew of him impressed us very favorably.

Dr. Judkins, as far as we know, contributed but little to the literature of the profession. He was a practitioner in the full sense of the term, and enjoyed in an eminent degree the good feeling of his brethren.

“At a meeting of the medical profession, held June 24th, to take action in regard to the death of Wm. Judkins, M.D., S. O. Almy was called to the Chair, and Wm. H. Taylor was appointed Secretary.

“Remarks expressive of the high esteem in which the deceased was held were made by Drs. Woodward, L. M. Lawson, Carroll, Murphy, Almy and Comegys.

“A committee consisting of Drs. Woodward, Carroll, Gans and Fore, appointed to report resolutions, presented the following, which were unanimously adopted:

“WHEREAS, As our old and much respected friend and professional associate, Dr. Wm. Judkins, has, in the Providence of God, been called away from us by death, it is with a chastened sadness, not unmixed with pleasing recollections of his many virtues, that we assemble to pay our last tribute to the memory of the deceased.

“*Resolved*, That during many years of intimate association, we have ever found the social and professional relations of our friend to be agreeable and happy, never hearing from him censorious or envious expressions, either against the failings or the successes of his competitors for professional advancement.

“*Resolved*, That in reviewing the life and character of the deceased, we find in his constant devotion to his profession, in his high-toned morality, and in his unpretending Christian simplicity, a bright example for the imitation of those of us who survive him.

“*Resolved*, That we most sincerely tender to the family of the deceased our warmest sympathy and condolence, in their great and irreparable loss.

“*Resolved*, That we will attend the funeral to-morrow, at nine o'clock A.M.

“*Resolved*, That a copy of the proceedings of this meeting be furnished the family of deceased, and the press of the city for publication.”



Died—on the 25th April, at 7½ o'clock, P. M., WASHINGTON MOOREHEAD, M.D., of Zanesville, Ohio.

The deceased was born in this city June 27th, 1807. He early chose the medical profession as his avocation, and graduated under the teachings of a Physic, a Chapman, a Gibson, and a Horner, at Philadelphia, in the University of Pennsylvania, July 31, 1829.

His disease was complex. The post mortem showed general atrophy of the muscular structure, and obesity—*Polysarcia adiposa*.

On opening the chest the anterior mediastinum was filled with a very thick layer of fat, resting upon the pericardium, and surrounding it; on the latter being opened but little serum was present in the sack, and the heart was found somewhat enlarged, and on its surface a thick deposit of fat which, on being separated, showed the surface unbroken, and the muscular structure atrophied, but extremely pale and bloodless. The walls of left ventricle were about half an inch in thickness and nearly two-thirds of this was fat, while those of the right were proportionally thinner than the left, and presented the same deposit. The right ventricle was dilated. The right auricle was extremely thin, as was the left. All the cavities were nearly empty, the right ventricle containing a few small loose grumous clots. On dividing the large vessels a little colorless serum came from the heart. On the semi-lunar valves a bright red congestion was seen, but none of the results of inflammation could be detected. The organs of the two cavities examined were almost bloodless and the blood anæmic; not only was fat in excess in these cavities, but it was largely deposited beneath the skin and superficial fascia and between the muscles so as to induce atrophy of their structure.

The lungs were healthy, as were the abdominal organs. It is much to be regretted that the brain was not examined.

Thus has the medical profession lost a valuable member, and the community a noble man, a skillful physician, and valuable citizen.

Rapidly are our veteran medical men passing away, too often to be replaced by mere quackish pretenders. The deceased was one who esteemed medical ethics most highly, and believed in, and practically carried it out in endorsing the olden motto—"Do unto others as ye would that others should do unto you." His acts of kindness were only exceeded by his devotion to the sick. His perception of the duties and responsibilities of

his profession were most acute, and while he contended with disease he forgot not to do good by the wayside. He was an honorable member of the Ohio State Medical Society, and took a deep interest in the proceedings of that body—and now, after a most active medical life, he has gone to that “bourne whence no traveler returns.” We remain to mourn his loss as a friend and professional brother. Peace be unto his manes. H. C.

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OHIO STATE MEDICAL SOCIETY.—The officers elect, for the ensuing year, are as follows: For President—Dr. M. B. Wright, of Cincinnati; Vice Presidents—Drs. E. L. Plimpton, N. Dalton, J. Harman, and R. Gundry; Recording Secretaries—Drs. W. W. Dawson, and Williams of Delaware; Treasurer—Dr. J. B. Thompson, of Columbus; and R. Thompson, Librarian. The address of the retiring President, Dr. Conklin, of Sidney, is pronounced unusually fine and appropriate. Several volunteer papers were read by Drs. Pomeraine, Culbertson, Dalton and Boerstler. These papers are said to be of decided value as scientific contributions, and, together with the proceedings, will be of enough volume and importance to warrant the usual issue of the annual transactions.

We understand invitations were urged for the Society to convene in 1862 in Cleveland, and, perhaps, one or two other points; but the present delightful location seems so well adapted for all the social and scientific purposes of the Society, that it again adjourned to meet on the third Tuesday in June, 1862, at the Ohio White Sulphur Springs—*Cin. Lancet*.

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CYSTORRHŒA vs. MATRIMONY.—A correspondent of the *Nashville Journal of Medicine and Surgery*, in the May number of that journal, says that for two years he was troubled with *cystitis*. Several “eminent physicians” were consulted, and a variety of treatment brought to bear upon the case, among which were injections into the bladder of a solution of nitrate of silver, twenty grains to the ounce.

He was advised by his physicians not to marry; but, after being treated ineffectually for two years, he disregarded the advice in this particular. He says:—"In less than three weeks after I married, the disease was entirely well, and I have had but very few slight symptoms of the affection since. (Now, about a year.) It seemed to reduce all excitement and produce an equilibrium in the system that acted like a charm."

We think the *non-professional* treatment would be less disagreeable than injections into the bladder of a solution of nitrate of silver, twenty grains to the ounce! But should a married man unfortunately be afflicted with cystitis, what is the remedy? Must he marry again?

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INFLUENCE OF THE MOTHER'S MIND UPON THE FŒTUS IN UTERO.—In the *Nashville Journal of Medicine and Surgery* for May, Dr. M. M. Davis, of Richmond, Miss., has an article upon this subject. Dr. Davis is a firm believer in the development of abnormalities and inhumanities in utero through the influence of the mother's mind. He narrates a case known to him, in which a woman had been, during her pregnancy, frequently frightened by a horse. Labor came on in due time, "and the object of her labor was expelled lifeless." Dr. Davis thus describes it:—"To the astonishment of the husband and all the attendants, it proved to be, instead of a child, something like the shape of a horse. Its head, ears, nose, neck, body, feet, and legs, were all as much like a horse as if it had been sired and foaled by that species of animals."

The second case came under his immediate observation. The lady, during her pregnancy, had taken a great fancy to a monkey, and miscarried, at what period of her pregnancy we are not informed. Dr. Davis thus describes the expelled contents of the uterus:—"From its neck it had the appearance of a well-formed four months' male foetus, while its head, mouth, nose, and ears, resembled those of a monkey. Its left eye had no lids, but all the ball and membranes seemed to be as blue as indigo, all of which was covered by a thin, transparent membrane. The right eye was not discernible."



PROFESSIONAL TRICKSTERS.—Can it be possible that the honored and honorable diploma or license in physic should ever become a stalking-horse for trickery? Is it reasonable to suppose that the doctor would at any time be influenced by the petty sentiments of spite and envy, in his conduct toward his professional brethren? As a philosopher, or at least as a man of common sense, (a less pretentious, but by no means less creditable character,) it might be imagined that he was too intimately acquainted with the chances of life ever to think it worth while to feel anything but the deepest interest in their honor and welfare. Rightly appreciated, the success of another adds lustre to ourselves. The distinguished conduct of each conduces to the distinction of all, just as the prosperity of all contributes to the well-being of each. In this light there would be no place for envy, and the noblest of professions, standing among the first in science as it is the first in benevolence, disinterestedness, and fraternal kindness, would not be sullied by those bickerings and heartburnings which too commonly beset the course of every-day life. But, alas for human nature!

In yonder row of spacious mansions resides, no matter whence his wealth, a very rich man, who has purchased two of the houses and thrown them both into one. He is so rich that he consumes upon himself alone more than twice as much as any other ordinary human being, and singular to say, enjoys better health than most mortals. His grooms, his horses, his furniture, and his household, all bespeak the man of money. He is a rare child of fortune, and fortune is good so long as she lasts. But what of that? He is sometimes ailing, and in the hour of need, real or imaginary, resorts to the aid of medical skill. What a pluming of pinions among the rising M.D.'s! What a shuffling of feathers among the eager general practitioners! What tiptoe excitement to learn upon whom will fall the patronage of one who is as much beneath them in intelligence as he is above them in wealth! Of course, only one can be selected. The rest bite their lips and retire. The great man takes a dislike to the one he has chosen. He turns him off and calls in a second, who is in turn dismissed as summarily as the first. Both the first and the second were men of approved talents and probity; but the great man does not care for that; they did not suit him, and he puts them aside at a moment's notice. He at last falls in with one to his entire satisfaction, in the person of an ignoramus as clever as himself. It is a decided hit; they were made for each

other; and Dives and Ignoramus go hand in hand. The squad of the rejected look on and wonder, but it is a wonder to no one except themselves.

In that well-furnished nursery lies a sick child, tended by its officious nurse, and watched by its sensitive mamma with continued and restless solicitude. The care bestowed upon the infant is out of all proportion to the exigency of the case. The child is ill and may possibly die, but will, under ordinary care and attention, in all probability, recover. The medical man who has charge of the case is a well-informed and experienced practitioner, perfectly aware of the contingencies of the ailment, and calmly alive to the whims and fancies by which he is beset. His little patient lingers on; his credit is on the wane. Another practitioner is named of infallible skill, particularly in cases of this description; and he is called into consultation along with the family medical attendant. At the appointed hour, a carriage and pair drive up to the house; no knocker is raised, for fear of a noise; only the door-bell vibrates gently; and in walks the pattern M.D. He is a tall man with an obsequious stoop, and his knees slightly bent. His hair is brushed back; he wears gold spectacles, a white tie, and a black suit. There is no creaking of his shoes, and his manner is bland and soothing. He hangs over the crib of the dear sick child in a solemn attitude of observation; touches it lightly, listens to its breathing, feels its tiny pulse at the wrist, and then, quietly looking up, asks the old practitioner, who is standing by and looking on, whether he has given his little patient *Tous les mois*—a panacea at that time only just introduced. The answer is in the negative. What?—Not!—replies the pattern, with an affected look of surprise; not given *Tous les mois*? *Tous les mois*, nurse; *Tous les mois*, my lady—turning to the agonized mamma—*Tous les mois* will cure your child! The old practitioner is dismissed, on the score of ignorance, and under the judicious use of *Tous les mois* the child recovers.

There are tricks in every trade, but of all tricks, professional pedantry is the most detestable. It has it all its own way. The party duped can have no insight into the secrets by which he is guided in the management of his property, his soul or his life. He must trust implicitly to the integrity and skill of his professional adviser, whom he flies to in moments of the last resort. It is in the embarrassment of such occasions that the trickster succeeds.

There is the opportunity of putting himself forward, and he seizes it with adroit avidity.

The *monstror digito prætereuntium* is a vanity common to all sorts of professional persons—the painter, the musician, the poet, the medical man, and artists of every description. It is gratifying to have ourselves pointed out as we pass along, and hear it said, that is he: *pulchrum est digito monstrari et dicier Hic est*, as Tacitus says, speaking of the orators. It is a venerable folly, sustained by classical authority, countenanced by Cicero, and quizzed by Horace. A slave nudged the aspirant for public favor in the side, (*fodiat latus*,) and whispered in his ear the name and title of those who met or passed him in the way. It is the same now as it was then. The rising medical man does not indeed retain a nomenclator at his elbow, but he does what is equally as effective, for he publishes a book to make himself known, and he rides in a carriage to let himself be seen. The world will not step out of its way to look after you. If you are not known, you may as well be lost or dead. Unadvertised, you go for nothing. You must proclaim your own merits, and put forward your own pretensions, with the best grace you may, or else make up your mind to subsist on modesty truth, and small means for the rest of your days.

The competition which such a line of conduct necessarily provokes engenders the heartburnings and petty rivalries that ruffle the social surface of the medical world. It is the old story—there cannot be two Cæsars in the same camp, nor two Kings of Brentford in the same village—*omnis potestas impatiens consortis*, and in the medical profession this is particularly the case. There can be no partnership in medicine, for it turns upon personal merit; if one succeeds the other fails, and the one that fails envies or hates his successful rival. Consequently, unless the mind and temper be extremely well regulated, the egotism and self-sufficiency of the medical character are almost proverbial. Who ever supposes that doctors were framed for the love of one another? No one, unless he be a simpleton or a novice. Men of the world suppose no such thing. They take it for granted that two of a trade never agree. Hence it is that, though unfounded in fact or reason, medicine holds so low a place in their esteem. Without giving themselves the trouble of examining the essential difference between charlatanism and science, they *lump* the whole together, and regard it all as a mystery or pretense, which they must use as well as they can,



whenever the hour for having recourse to it is forced upon them. Were it not for this adverse impression, medicine would long ago have gained the ear and secured the attention of government, upon the ground of its being a practical science of the highest national importance.

People are misled by appearances. The general practitioner you see driving along in his open barouche was educated at a small preparatory school, served his time in an apothecary's shop, passed his examinations, and is now playing the fine gentleman. He never attends a servant, nor any inferior person—*i. e.* an unpaying patient, except as an act of grace. No one could be more timid than he was on his first commencing practice. A child might have whipped him with a straw. At this critical juncture he besought the aid of one much older, if not wiser, than himself, and in him found a friend who fulfilled indeed the adage of being a friend in need. Night and day he beset his friend's door, which was always open to his call, and there he found, what he required, help in his necessities, consolation for his alarms, and the assurance of his final success. The hour of success arrived as it had been predicted; but no sooner had it arrived than he kicked the ladder that had helped him up from under his feet, mounted the platform, as it were, by his own unaided efforts, and stood alone. Now he lords it among the best of his fellows. Only a few are good enough to be countenanced as his equals. His manners and deportment are supercilious and overbearing. He takes the upper hand with his brethren, except those to whom he thinks proper to bow, to cringe, or to court. Colbert, in the reign of Louis XIV., did the same, and so did Sir Andrew McSycophant, in the *Man of the World*. It is by no means a bad game, although it sometimes fails egregiously. As to his absolute knowledge and acquirements, they are as shallow as shallow can be, but perfectly suitable to that class of delicate cases in which the married and unmarried in brocade and finery are supposed to rule supreme. His behavior is what is emphatically styled *sugary*, and he is a lady's man in every sense of the word.

The puppets that strut upon the stage of the world are as numerous and amusing in medicine as they are in any other profession, trade, or calling. Perhaps more so, because the practice of physic ministers directly to the self-love and egotism of its votaries. None but his admirers and friends seek the popular practitioner; he

never knows his enemies, who never consult him. He moves in a charmed circle, within the sphere of which he meets with nothing but adulation, and beyond which he never steps. He is a pet in the fullest meaning of the word. His little world cannot live without him, till it has changed its mind, and then he must learn to live without it.

The stage upon which he struts has its loose boards, which sometimes slip from beneath his feet before he is aware of it. It is his ignorance of the jeopardy in which he is placed that makes him forget himself and pretend to be something great. He cannot see, nor does he know, that so long as his career lasts, he is nothing better than an actor dressed up for the hour to suit the nonce. He calls down the plaudits of the house whenever he appears on the boards. But let him quit the scene, and walk the streets by daylight as a private man, and he will find that no one knows him in his plain clothes. The applause which made him giddy was due to his office, not to himself. The next that treads in his steps will succeed as ably as he has done, and fail or fall as quickly as himself. Professional friendship is the expression of public confidence. As such it is invaluable, since it is, in fact, only another term for character and reputation; but overrate it, and you will find to your cost that, like the ass in the fable, you have made a false step by leaping into your master's lap.

There is a ripe season in every one's life, which soon comes to a close. The summer solstice is brief. The best man has his day. The best actor may linger too long upon the stage. The *vivas* of yesterday will be re-echoed by the *à bas* of to-morrow.

The same shield has its two sides, the golden and the leaden one. We have been looking at the lead; now let us see the gold. In an age which was none of the brightest, Charles II. did not hesitate to reward the author of the *Religio Medici*, and the good and quaint Sir Thomas Browne still adorns the list and library of the Royal College of Physicians. The writings of Sydenham are the best comments on himself, and his worth has obtained for him the inestimable title of the Father of English Medicine. The evening of life closed in upon Boerhaave, and found him in the vale of years still studious and religious, endeavoring to dispense for the maladies of others that relief which he had failed to procure for himself. It is superfluous to expatiate on the virtues of these great men. They are known to all the world. But if there were giants in those

days, the men of modern date are not pigmies. The names of Babington, Bailey, Cooper and Abernathy, are as household words upon our lips; and their successors, Brodie, Bright, Watson, Copland, Todd, and others, whom it would be as invidious to omit as to mention, deserve no less a meed of praise. Their career is graceful and attractive, because it is their own. They are what they are, and no change of fortune could dwarf their just proportions. Medicine owes them everything. Good sense and good taste, sound learning and practical skill, modesty and worth, are qualities which compel universal respect, defy criticism, and outlast time.

Dignum laude virum Musa vetat mori.

(*Medical Critic and Psychological Journal*, April, 1861.)

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THE NECROLOGY OF CHLOROFORM.—At a meeting of the Western Medical Society of London, reported in the *Medical Times and Gazette*, Dr. Sansom remarked that he considered that, at the highest estimate, the number of deaths from chloroform to the number of inhalations bore the proportion of one to ten thousand. Various considerations, however, concurred to show that this should be very much more favorable. In the first place, it was very probable that several of the deaths were from shock or fright, and not from chloroform; and in furtherance of this view was the fact that half of the number of deaths occurred before the commencement of the operation for which chloroform was administered. Another avoidable circumstance increasing the death rate was supposed to be carelessness and laxity in the administration of the vapor. Circumstantial records of thirty-four cases of death, which have occurred since the publication of Dr. Snow's work, were presented; the author combined them with those recorded in that volume, and offered an analysis of their most salient points. In cases of death the proportion of males and females is about two to one, and this seemed to the author strange, since the anæsthetic is so largely used in midwifery. The average age for death is thirty to forty. It certainly seems that the strong and healthy stand a worse chance than the debilitated; but of all states of the system, chronic or acute, alcoholism the most predisposes to death. Extensive disease of the lung occasionally disposes to death from asphyxia; dis-



ease of the heart probably does not influence the mortality. Dr. Sansom strongly deprecated the administration of chloroform sprinkled on handkerchiefs, etc., basing this not only on the observed fact that a highly-charged atmosphere (5 per cent. Snow, 8 per cent. Lallemand, Perrin and Duroy) was fatal to animals, but on the circumstance that, of all the cases which he had collected, only two were mentioned as occurring wherein a proper inhaler had been used. Of fifty-one cases, thirty-eight declared their danger by sudden stoppage of the pulse. Five deaths occurred in which there was manifested great muscular excitement, collapse immediately following; these were all strong men in their prime. Sudden vomiting, and then death occurred twice; congestion of the face was the most marked sign in six, and cessation of breathing in eight cases. Dr. Sansom considered that death occurs both by asphyxia and by syncope—in animals by palsy of respiration, the heart being “ultimum moriens;” in man occasionally from this cause, but more frequently from palsy of the heart, the respiration outliving it. In animals a constant sign on post-mortem examination is distension of the right chambers of the heart; in man this is a frequent, but still far from a constant sign. Fluidity of the blood, and a dark color thereof, occur almost invariably. The following were the author's conclusions:—In animals deaths occur by asphyxia, and begins in the brain. In man death occurs by asphyxia or syncope, and begins in the brain, in the heart, or in the lungs. Artificial respiration is the only reliable means for restoration in critical cases. Galvanism of the phrenic is valuable where the means are at hand. Before anything is done, the tongue should be well drawn forward, and the mouth and throat cleared from mucus.

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*A Correspondent of the Medical and Surgical Reporter* writes from Camp Hamilton, near Fortress Monroe, Va., June 12, 1861 :

“All of the camps have suffered somewhat from bowel affections incident to so great a change in diet and habits; very few becoming serious, however. Contagious diseases, we are happily thus far exempt from. Several severe cases of *pneumonia* and *pleurisy* have occurred among the troops, and, since the weather has become very warm, a number have suffered from coup de soleil. On the 10th instant, several regiments were marched ten miles towards York-

town, and, while on the march, one regiment came upon another mistook them for enemies, and gave them a volley, wounding quite a number. The force afterwards came upon a battery of the enemy, and were stopped, killing several, and wounding twelve or fifteen. The battery commanded the approaches for half a mile, and all the buildings in the vicinity were in range of the guns; nevertheless, they were occupied as temporary hospitals, and such relief as could be afforded them was there rendered by the respective surgeons of the regiments engaged. We felt sadly in need of instruments—most of us having only a dressing-case. The department states that we shall be furnished with the necessary instruments; one amputating-case and one pocket-case are not sufficient for a regiment, and these are all that is furnished to us, not including so necessary an instrument as a catheter or a bougie—no silver wire or suture pins. Dr. Cuyler, the medical director of this district, would be very glad to furnish us, but he has no supplies. I supposed, when I entered upon this service, that there was some such thing as an ambulance used in war; but such a luxury is not known here—at least we are not provided with anything more than a hand-litter. We were obliged the other day to impress into our service the dilapidated carts and donkeys by the way, and in such rude manner drag at a snail's pace our wounded, under a burning sun, ten miles back to Hampton, where those badly hurt were put on boats, and taken round to the general hospital established by Dr. Cuyler outside the fort for the volunteer forces. This establishment is extensive and well arranged, and, when furnished complete, will accommodate five hundred patients. The building was formerly the hotel at Point Comfort. I was present yesterday while Dr. Cuyler was dressing a very interesting case—that of a man with compound fracture of the femur at the trochanter, the grape-shot entering in front and escaping at the post-gluteal region. The doctor was attempting to save him from the terrible alternative of amputation at the hip-joint. Others were wounded as follows:—one with a compound fracture in the middle third of the thigh, put up and dressed as for ordinary fracture; one suffered amputation of the fore-arm, and one of the arm near the elbow on the field of battle; one shot through the lower part of the abdomen; one shot through the axilla, one in the epigastrium, and one in the back, penetrating the chest, were seemingly doing well."

*Convallaria in Ecchymosis.*

A writer in the *Medical Times and Gazette* says:—"A correspondent asks the communication of an effective remedy for ecchymosis of the eye in a lady patient who had met with an accident. One which I have used for a great many years, never disappointing me, usually getting rid of the blackness in a few hours, is the root of the 'Convallaria,' 'Solomon's Seal.'" It should be washed, the dark colored cuticle carefully cut off, then scraped like horseradish, applied direct to the eye in the way of a poultice, cold. A tingling sensation is the consequence; when this sensation ceases, another fresh application should be made, and repeated until the whole ecchymosis is absorbed. I have often found it sufficient to apply the scraped root at bedtime to the closed eye, when the blackness has disappeared by the morning. The convallaria is readily found, and is equally effectual at this season of the year.—*Druggists' Circular.*

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*Chloroform Liniment in Toothache.*

Take the white of an egg, and add an equal bulk of chloroform, and digest four hours at an ordinary temperature. Apply this to the gum, immediately above the aching tooth, by saturating a piece of lint, over which is to be placed a second piece of dry lint larger than the first, in order to protect the lips, which are to be allowed carefully to fall on the two in order to retain them in their places. We have found this invaluable in the relief of such disturbances as are not dependent on fully developed inflammation, such as neuralgic disturbances, and the first stages of periostitis. A more powerful liniment can be made by taking one part of white of an egg and four of chloroform, placing them in a bottle, which is to be completely plunged into a water-bath at from 120° to 140°. Gelatinization takes place in four minutes. This is to be rubbed on any painful part, and great relief is produced. The slow cauterization it gives rise to, and the protection of the part from the atmosphere, render it a very powerful counter-irritant. The cold preparation is perhaps the best and easiest made, and when a decided effect is required, it should be repeatedly used.—*London Pharm. Journ., April, 1861, from American Journal of Dental Science.*



MEDICAL MISSIONARY SOCIETY OF CHINA.—The twenty-second annual meeting of this Society was held at Canton, January 17th, 1861. From the report of the hospital, presented by John G. Kerr, M.D., we learn that the number of patients received during 1860, was 17,631. Two hundred and six in-patients were admitted, and more than two hundred and fifty surgical operations were performed. The diseases treated have been, a majority of them of a chronic character. Those of the eye and skin, rheumatism, bronchitis, dropsy, scrofula, have been most numerous. The vaccine department established last year, has been continued with very satisfactory results. In the spring some fresh lymph was obtained from Dr. Murray, Colonial Surgeon of Hong Kong, from which about seven hundred were vaccinated. Vaccination has been practiced in China for many years, and the history of its introduction there is as follows: A man, whose family name was Yau, was instructed in the art in 1805 by Dr. Alexander Pearson. He continued in the practice for many years, and was succeeded by his son, from whom the Missionary Society procured the lymph. His method of operating was to make four or five transverse incisions in the arm, half an inch long, with the lancet, and then dipping it in the mature vesicle the lymph is transferred directly from one arm to another. Mr. Yau has a portrait of Dr. Pearson in his office, and he also keeps for distribution a concise history of vaccination, from which it appears that "it came from the west." "In the tenth year of the Emperor Ka Hing, (1807,) my honored father, Ho Chun, first obtained and disseminated it every where. Verily it is an advantage to children that they may escape the heaven's flowery pestilence (small-pox.) Formerly, when the General Topography of Canton Province was being revised, the Gov. Gen. Un commanded the account of vaccination to be inserted in the records of the capital in connection with my honored father. In the nineteenth year of Ka Hing, (1815,) application was made to the Hong merchants to establish a vaccine dispensary so that the virus might never be lost. In the twenty-second year of Ka Hing, (1818,) my honored father commanded me to devote myself exclusively to this art in the dispensary." In the twenty-seventh year of Tau Kwong, (1849,) Tau went to the imperial city to disseminate vaccination; in 1850 his father died, and as his dying injunction, said: "You, my eldest son, have received my instructions for more than thirty years—hereafter it devolves upon you to disseminate abroad this benevo-

lent art, and never permit it to be lost." In 1852 the vaccine dispensary was re-established, and Yau was invited to superintend the business. "Now," he says, "the virus which I use is derived directly from that brought by the Hong merchants, and before it is used, a man skilled in detecting leprosy examines the child, and thus all danger is avoided." From this source it is probable vaccination is extensively practiced in the celestial empire.—*Phila. Med. and Surg. Reporter*.

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GOUTY CONCRETIONS IN THE EAR.—Concretions, occupying the lobe of the ear, within the helix, in the shape of small round prominences, under the skin, have often been observed in gouty persons, *i. e.*, in subjects presenting manifestations of the lithic diathesis. Left to themselves, these concretions are sometimes spontaneously eliminated without the interposition of any inflammatory action, and leave a slight scar behind.

This is not a new disease. English practitioners, who have more frequent opportunities than ourselves of studying gout, have already observed them. Garrod asserts that they are to be met with in half the cases, and even that their appearance sometimes precedes the other manifestations of the morbid diathesis. This would therefore be a very valuable element in the diagnosis of incipient gouty affections. Mr. Charcot has observed but six individuals affected with gout, in consequence of the rarity of this disease in hospitals; of these six patients, three presented the concretions we have just noticed. Extracted by means of a small incision, they displayed the aspect of a plaster-like matter, constituted by hard crystals. If they are analyzed, their chemical composition is found to be that of articular tophus; the addition of acetic acid causes the deposition of uric acid, in very apparent crystals.

[*Med. & Va. Med. Jour.*]

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CLEMENT A. FINLEY, M.D., recently promoted to the office of Surgeon-General of the United States Army, is a native of Ohio. He entered the army as Assistant-Surgeon on the 10th of August, 1818, nearly forty-three years ago, and was promoted to the rank of Surgeon on the 13th of July, 1832. He was the Senior Surgeon in the Medical Department of the Army, and entitled to the promotion. The Senior Surgeon of the Army, now, is Dr. Satterlee.—*Amer. Med. Times*.

# STARLING MEDICAL COLLEGE,

## COLUMBUS, OHIO.

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FOR THE SESSION OF 1861-62.

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The next session of Starling Medical College will commence on Thursday, October 16th, 1861, and will be continued until the 1st of March.

The Dissecting rooms for the study of practical Anatomy, will be open from the commencement of October.

The Museum of the Institution has been made very attractive by late receipts from France and Germany.

The College building is in complete order, the east wing having been entirely completed.

### FACULTY:

S. M. SMITH, M.D.,

Professor of Practice of Medicine—Physical Diagnosis.

FRANCIS CARTER, M.D.,

Professor of Obstetrics—Embryology, Diseases of Women and Children.

JOHN DAWSON, M.D.,

Professor of Anatomy—Microscopical Anatomy and Physiology.

J. W. HAMILTON, M.D.,

Professor of Surgery—Eye and Ear Surgery.

S. LOVING, M.D.,

Professor of Materia Medica—Hygiene.

THEO. G. WORMLEY, M.D.,

Professor of Chemistry—Toxicology.

R. N. BARR, M.D.,

Demonstrator of Anatomy.

### FEES:

Tickets of all the Professors, . . . . .	\$60 00
Matriculation Ticket, paid but once, . . . . .	5 00
Graduation Fee, . . . . .	20 00

Subjects for dissection in the building, furnished at a moderate expense, on application to the Demonstrator of Anatomy, *and in no other way.*

There are two extensive Bookstores in Columbus, at which Medical works in great variety are sold at very low rates. Surgical, Obstetrical and Dissecting instruments are readily obtained.

All letters of inquiry will receive prompt attention, if addressed to any member of the Faculty, or to

S. M. SMITH, *Dean.*



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